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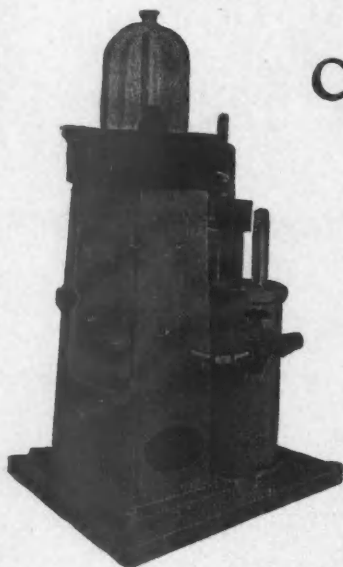
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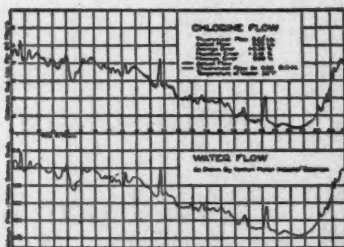


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Note: The flow of chlorine varies exactly with the flow of water

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## Lessons from the Poliomyelitis Epidemic in Manitoba, 1928\*

By

JOHN M. McEACHERN, M.D., AND LENNOX G. BELL, M.D.

*Winnipeg*

**B**ETWEEN July 1st, 1928 and November 15th, 1928 there occurred 435 cases of poliomyelitis in the Province of Manitoba. In the early weeks of this epidemic public health officials authorized the Medical Research Committee of the University of Manitoba to prepare convalescent serum for use in the treatment of the disease. The Committee was also asked to accept the responsibility of distributing the serum and of making a study of its therapeutic effect. This meant that full scientific and clinical control in certain cases was placed in the hands of the Committee subject to the co-operation of the attending physician. This co-operation was most generous.

Honorary, unpaid consultants were appointed by the Committee who on request by physicians assisted in the early diagnosis of the disease. Spinal fluid cell counts were made at the bedside and in many instances serum was administered at the time. It is rather remarkable to note that over 300 consultations were requested and made. In addition to the unpaid consultants a research fellow, Dr. Mary McMenzie, who was not in active practice in the city was the consultant in the majority of cases. It is felt that these two factors should be considered in appointing consultants for any epidemic.

Technical and laboratory facilities were provided by the Committee. A twenty-four hour service for consultations and serum distribution was instituted. The location and telephone number of the laboratory were widely advertised to the physicians of the Province.

Each consultant was supplied with the following portable equipment:

\*Presented at the Eighteenth Annual Meeting of the Canadian Public Health Association, Montreal, June, 1929.

- (a) Thermometer and percussion hammer.
- (b) The necessary equipment for performing lumbar puncture.
- (c) Chloroform and ether mixture and anaesthetic mask, it being necessary in young children to induce light anaesthesia in performing spinal puncture.
- (d) Vials of serum and sterilized syringes for administration.
- (e) Microscope and Fuch's-Rosenthal counting chamber.

All hospital cases were, as far as possible, sent to the King George Hospital where two physicians were appointed by the Committee to act as internes. The records of patients in this institution were invaluable.

Consultants and assistants of the Committee kept careful records noting the symptoms and signs according to days of onset, the degree and amount of paralysis if any, and making frequent follow-up examinations during the four to six weeks following the onset of the disease.

#### OBTAINING AND PREPARING SERUM

The most serious difficulty to be overcome was an early shortage of suitable donors. In searching the lists supplied by health authorities, it was found that the incidence of poliomyelitis during the preceding years had been remarkably low, and that the people who had suffered had in many cases disappeared. At first it was necessary to visit each address and after locating the prospective donor it was necessary to use many arguments to convince him of the great need for his blood. Following judicious newspaper publicity the donors came of their own free will and gladly gave their blood. In all 113 donors were used 210 times; ten cases from the present epidemic were used in all 15 times. The average period since the disease was 12 years. Practically all the serum was pooled.

Donors were paid at the rate of \$5.00 for each 50 cc. of blood or fraction thereof. These rates are quite fair. To pay more is to suggest that the procedure of removing a little blood is a very serious matter with consequent hesitancy on the part of the donor in offering his services.

All serum was prepared according to the method and under the direct supervision of Professor F. T. Cadham. To quote from his report:

"Persons who had previously suffered from poliomyelitis and who had not been treated with convalescent serum reported to the laboratory just before the meal hour. Blood was withdrawn from a vein into large sterile vacuum tubes. The blood was allowed to clot at room temperature and then placed in the ice chest for fifteen hours. The tubes were centrifuged and the serum pipetted off and pooled. The serum for intravenous and intrathecal use was put up in vials without

the addition of any antiseptic. To the serum intended for intramuscular use 0.25 per cent of tricresol was added. Twenty-five cubic centimetres were placed in each vial. 4,000 cc. of the 9,000 cc. prepared were heated at 55° C., for 10 minutes. No appreciable difference was noted in the therapeutic effect of the two groups. Serum direct from each vial was inoculated into deep tubes of serum glucose broth and cultured in order to test for sterility. Subsequently the serum was examined daily, this being possible since the supply was controlled in one central depot.

Wassermann tests were carried out on the blood of each donor. Only 50 to 100 cc. of blood were withdrawn from a donor at one time." For the reasons given by Doctor Cadham this proved to be an advantage.

Over 10 litres of serum were distributed throughout the city and province and, as Gilmour and Cameron have shown, the ratio of treated cases to the total reported was satisfactorily high, reaching 95 per cent in the later weeks of the epidemic.

#### THE EARLY DIAGNOSIS OF POLIOMYELITIS

Some clinicians doubt the existence of a recognizable pre-paralytic stage of the disease. Our experience has proven that not only does it exist but further that during an epidemic it has been recognized by most of the practising physicians of a large city. In the early days of an epidemic individual physicians have little opportunity to see many cases in the pre-paralytic stage due to the ignorance of the parents. If however, the public is educated by carefully edited descriptions of the early stage of the disease and the matter is brought to the attention of the physicians by medical meetings, or suitable pamphlets, there is, in our mind, no reason why 95 per cent of the cases cannot be diagnosed before paralysis sets in. Success in early diagnosis, then, depends first, upon education of the public to the necessity of calling a physician early, and secondly in bringing suitable material to the attention of the physician at the proper time during the course of an epidemic.

In the following description of the disease our own experience has been added to the classical outline of Aycock and Luther.

The onset is sudden and abrupt with a rapid rise in temperature which is usually under 102° F. The degree of prostration is greater than would seem justified by the temperature. Vomiting may occur, usually only once, and that shortly after the onset. The child may complain of frontal headache, sore neck or lumbar pain. Pain in the limbs is common. The child is irritable and restless—or may be drowsy. A fine tremor of the hands or a muscular twitching has been noted. The face is flushed, the expression anxious and there is often a peculiar dazed expression somewhat similar to that observed in a

slight cerebral concussion. The pulse is usually rapid, out of proportion to the temperature. The respirations are at times increased in rate. There is frequently rather a coarse intention tremor. There is a distinct rigidity of the neck. The head can be brought about half-way forward when resistance is encountered and the child complains of pain. The spine sign is usually positive. This sign may be demonstrated in two ways. In small children the hands are placed under the shoulders and buttocks and the child lifted horizontally from the bed. In positive cases the spine is held rigid, sometimes defensively arched. Any attempt to bend the spine causes pain. Older children raise themselves to a sitting posture with difficulty and are unable to bend forward except from the hips, when asked to touch their toes. A *cérébrale taché* is frequently present but it is also frequently present in other febrile diseases. The reflexes are disturbed in some way in nearly every positive case. In 34 per cent of our cases there was absence of the abdominal reflexes. One or both ankle jerks may be absent. Kernig's sign is frequently positive and the manipulation may cause pain along the spine. The knee jerks are absent (33%) or exaggerated (18%) in some cases. We feel that any variation or slight abnormality of the reflexes during the early stage of an acute febrile illness combined with a stiff neck or spine justifies a diagnosis of poliomyelitis. A spinal fluid cell count is essential at this stage.

It is felt that this procedure is as important and as necessary in the diagnosis of poliomyelitis as the leucocyte count is in a patient with suspected inflammation of the appendix.

#### RESULTS OF SERUM THERAPY

A series of 161 cases were specially studied. In 87 cases receiving no serum or where serum treatment was instituted after paralysis set in there were 56 per cent showing residual paralysis and 19.5 per cent deaths.

In 57 cases treated in preparalytic stage with intramuscular injection of 25 cc. of convalescent serum, 7 per cent showed residual paralysis and there were no deaths. This summarizes our results, a more detailed analysis having been made in a previous paper.\*

In conclusion we feel that success in the handling of the poliomyelitis problem can only come through close co-operation and team work between public health authorities, the public and the practising physician.

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1. Report on the Poliomyelitis Epidemic in Manitoba, 1928. Published by the Dept. of Health and Public Welfare, Manitoba.
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\*Canadian Public Health Journal, Vol. XX, No. 5.

# Some Problems of the Rural Medical Officer of Health\*

By

SENATOR DR. GUSTAVE LACASSE

*Medical Officer of Health, Tecumseh and East Sandwich*

## INTRODUCTION

THE title of this paper, according to an expression familiar to the present Minister of Finance, either says too much or not enough. To fully do justice to it I should like to cover the whole subject, that is, to touch upon everything of importance that comes under the control and direct supervision of the rural medical officer of health. But it is impossible to do it in the short time at my disposal, and at all events I would not dare inflict upon you an exhaustive study of all the problems which we may have to deal with in our rural communities. I shall therefore limit myself as much as possible. Firstly, I will make a few brief remarks on the general duties of the medical health officer, as I understand them; secondly, I shall dwell upon one particular undertaking which is, to my mind, of paramount importance. I mean, School Nursing. "The schools are the nurseries of the nation." Then I will mention the principal difficulties which too often antagonize the work of the medical officer of health, and I will conclude by offering a few humble suggestions.

## GENERAL DUTIES OF THE MEDICAL OFFICER OF HEALTH

I would divide the activities of the average medical officer of health in rural districts into four main functions: (a) Control of Communicable Diseases; (b) Abating of Nuisances; (c) Close Supervision of Food; (d) Inspection of Schools.

### *Control of Communicable Diseases.*

Gone forever should be the time when the medical officer of health had just the function more or less of a police officer, and when his duty as such consisted almost exclusively in satisfying himself that the quarantine card had been properly tacked on the house of the smallpox victim. The medical officer of health nowadays, with all the new means at his command, must not consider placarding as his one and

\*Delivered at the Fifteenth Annual Meeting, Ontario Health Officers' Association, Parliament Buildings, Toronto, June 5, 1929.



only duty, but he must carry his fight against communicable diseases much further and exert himself to wipe them off altogether. "Disease Prevention" should be his motto, and along that line he must, for instance, vulgarize and popularize vaccination, the use of diphtheria toxoid, etc. I flatter myself that during the famous smallpox epidemic which took place in Windsor in 1924, not one case developed amongst the six thousand people that were then under my jurisdiction, and that in spite of the fact that the two municipalities of which I was the medical officer are adjacent to the Border Cities. Of course, I attribute that splendid check of the spreading of the disease to the intelligent and swift manner with which the Essex Border Municipalities medical officer handled the situation, but also to the fact that we ourselves had established vaccination clinics throughout all our schools eight years previously.

#### *Abating of Nuisances.*

No need there be to dwell upon the public nuisances found in rural districts. Let me simply mention three or four common ones which are comparatively easy to handle, although such has not always been the case with me: refuse or waste water from certain establishments like tallow-melting plants, canning factories, slaughter-houses, etc.; bad cesspools and unsanitary toilets; dead animals or manure piles in towns or villages; stagnant water because of poor drainage, etc.

#### *Supervision of Food.*

We should, even in the country, supervise as much as possible the sources of supply and the handling of food, especially meat and milk. The milk problem is a big one by itself, and I just wish to mention it, saying simply that all municipalities, large or small, should have their milk by-law as suggested by the department and enforce it. The water supply is a very important matter also. But conditions have decidedly improved on that score in the Province since the typhoid death rate, as you all know, has been reduced in Ontario from 50 to less than 3 per 100,000 in a relatively short period.

#### *Inspection of Schools.*

Now one field that demands the constant attention of the medical officer of health is the school, and the periodical inspection which the provincial authorities have invited the medical officer of health to make, a few years ago, is a very good step in the right direction, for, after all, the school children are the citizens of to-morrow, and in order to be of some service to their country in time of peace as well as in time of war they must be physically fit. And this leads me to the second point of my discourse.



## RURAL SCHOOL NURSING

"The greatest single thing that could be done toward making country life as attractive as city life would be to place within the reach of every country child as good a school as is provided for the city child," say, Prof. Carver, and I do declare with a good deal of pride that what is expressed here in the form of an indirect wish by the distinguished scientist is now an accomplished fact in the municipalities of Sandwich East and Tecumseh. I may say, in effect, with much satisfaction, that after two years of persistent work and propaganda, and with the generous co-operation of our District Health Officer, Dr. McNally, and of the high officials of the Department, Drs. Bell and Phair, we have succeeded in establishing what is probably the first school nursing unit in rural Ontario.

Now it might be of interest for you to know a few facts as to the way that unit was organized and the way it is functioning.

The township of Sandwich East, which has a population of over 4,500, and the town of Tecumseh, 2,300 strong, surround the south-eastern boundary line of the Border Cities, along a stretch of approximately ten to twelve miles long and four miles deep. The two together have eleven schools, four separate and seven public, of which the largest has 396 pupils and the smallest 22, with a total school attendance of 1,442.

In the latter part of November, 1927, a joint meeting of official representatives of the two municipalities was called for the purpose of considering some system or combined action to secure the services of a public health and school nurse. The plan suggested by the medical officer of health was accepted unanimously. A joint commission was formed immediately. The respective heads of the two municipalities and the health officers were, ex-officio, chosen as members of that body. This "Joint Commission for the purpose of Public Health and School Nursing work in Tecumseh and Sandwich East," was given legal existence by a formal by-law passed by the two councils interested, and given also full power to hire and organize a staff to carry out their programme; and now, as I wrote to the Deputy Minister of Health on January 20th, 1929, "our commission is functioning smoothly, and although we bought a car for our nurse in 1928, we are already anticipating a material reduction of expenditures for 1929." Estimates are struck at the beginning of January on a pro rata basis, by the two councils, and then a cheque is issued quarterly payable to the common fund by their respective treasurers, and everybody seems to be satisfied.

I wish to pay here, *en passant*, a discreet tribute of thankful appreciation to the two nurses, Miss Pennock and Mrs. Kennedy, who by their intelligent tact and loyal devotion have so wonderfully co-operated with us and contributed to line up behind us public opinion in that new undertaking. I also wish to make an honourable mention of the

gracious help which we receive occasionally from local service organizations like the Lion's Club (free treatments for the blind), the Rotarians (free orthopedic clinics), and the Catholic Women's League in the field of social work and care to indigents.

The first year of our existence as a school unit was spent mostly in educational work along the line of health preservation and promotion and in general organization. Four hundred and fifty school children, though, either were vaccinated or received the diphtheria toxoid treatment, free of charge, and a fairly complete programme was carried out with regard to the detection and proper handling of contagious diseases, malnutrition cases, and other physical ailments or infirmities.

I do not want to annoy you with a long list of figures, but in order to point out to you the need of school nursing even in rural districts, which are admittedly healthier than urban centres, I will simply confide to you that our statistics at present show that 60 per cent of our school population are afflicted with physical defects that require early attention.

One little point which I also wish to bring out is that school nursing transforms a liability into an asset, or a danger into a defensive weapon, so to say, inasmuch as it teaches the children not to be a means of disease spread, but to become the very opposite—that is, vivacious messengers of the gospel of good health and clean living.

We frankly admit, however, that we have merely tackled a big task and that we have a lot to accomplish yet, but I believe that the worst stage of our enterprise is over since we are now firmly organized and in possession of the confidence and the goodwill of the public.

#### SOME OF THE FOES OF THE MEDICAL OFFICER OF HEALTH

Before coming to my last and concluding point, permit me to touch upon the main obstacles which spring up on the path of the medical officer of health in rural communities particularly, and which sometimes paralyse his efforts in the performance of his important and numerous duties.

Those difficulties originate from three principal sources or parties, namely: the public, the profession, and official bodies.

Too many people, even in this 20th century A.D., are startlingly—I was going to say—maliciously ignorant, and saturated with prejudices regarding sanitation and social hygiene. For instance, haven't you often heard something like this from an interested neighbour? "Those quarantine laws are nonsense. I never catch anything anyway," or "You say it's whooping cough, measles, 'fièvre rouge,' well, he is bound to have it anyway, and he might just as well have it now and be done with it," and again, after death has stiffened those poor little limbs and deposited its icy kiss on those purple lips: "The doctor says it was too late for that serum to take effect. . . . Ouah! those shots are no good

anyway. You know there is always something left in the system after that. Mrs. So-and-So's baby was even killed by it last year. Be cheerful, my dear friend, that is one more little angel in heaven—and you have enough kids left anyway,"—and so on, and so on indefinitely.

Sometimes opposition comes also from "the other doctor," and that is most unfortunate. The Director of the City Department of Health of Montreal, Dr. S. Boucher, gave out a statement to the press sometime ago in which he says: "Too many doctors (in Montreal) fail to report contagious diseases as required by the provincial laws and city ordinances. This non-compliance is in some cases prompted by considerations of pecuniary interest and fear of being dismissed by the family concerned." In spite of the fact that this declaration created quite a stir among some members of the Quebec medical fraternity, I maintain that it stamps out also some Ontario physicians under their true colours.

So far as public bodies are concerned, I believe that the best way to proceed in order to obtain and keep their goodwill and sincere co-operation is to keep away from municipal politics, and to show on all occasions that, as a public servant, you have but one thing at heart: the interest and the welfare of the people for whose health, from a social and collective standpoint, you are responsible.

#### ONE OR TWO SUGGESTIONS: HEALTH UNITS, ETC.

Five years ago a committee was appointed by this association "to inquire into the desirability and feasibility of inaugurating a system of county or combined areas, full-time officers of health, and regional staffs, to properly carry out effective health services." That committee, which was formed of Drs. Radford, Roberts, McKay and Hutton, presented their report in May, 1925, and their conclusions were that such a system was desirable because more efficient, but not applicable all at once throughout the Province because too costly. They added, though, that such health units should be put to a test in a few well-chosen parts of the Province for a period of five years. Now, I do not know whether the above-mentioned experiment is being proceeded with or not, but here is what I beg to submit concerning a departure from the present system. I have been in favour of health units from the start for four reasons: greater efficiency, greater authority, greater saving, and more uniformity in the enforcement of the Public Health Act, and I fully agreed with Dr. McCullough when he said in an article published in *The Canadian Medical Association Journal* in March, 1925: "The most pressing public health need in Canada to-day, in my opinion, is the establishment at the earliest possible date of some system of full-time health organization." The main objection to such a system, in the mind of many, lies in the fact that most municipalities are unable to stand the financial burden

imposed upon them by its operation. That may have been true five or ten years ago, but conditions have changed considerably since then throughout this fast-growing and fast-developing Province; new highways have been built, transportation facilities have been improved and multiplied, means of communication have been perfected (telephones, telegraphs, radio, air mail—). I conclude therefrom that the feasibility of establishing county health units or the equivalent, according to local conditions here and there, is much more apparent than five years ago, and that the experiment should now be launched in a few places in the Province anyway.

#### CONCLUSION

In the meantime let us not sleep at the throttle, but let us be ever vigilant and faithfully attend to the noble duties which are ours as depositaries and trustees of the greatest asset of Nature, that treasure whose name is HEALTH.

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### Benefits of Health Work

"THERE is already abounding evidence that the work of the public health authorities to prevent illness and to conserve life considered from a purely economic viewpoint, pays large dividends. Let us take the situation in a city like New York. The results are fairly typical of what has happened in other large centres of population. In 1875, the death rate was 28.3 per 1,000; in 1925, it was 11.5, or a reduction of 59.4 per cent. A better measure of the improvement is perhaps the gain in average duration of life. In 1880, the average life-span was about 40 years in New York City and most likely in other urban centres in the United States. It is now 55 or 56 years, a gain of about 15 years in less than a half-century. The greatest gains have been achieved recently. In 1901, a baby born in the United States Registration Area might expect to live 49.24 years; this expectation of life has now risen to 57.74 years. The present figures are not accidental but the result of a definite trend which has been fairly continuous for a whole generation, reflecting the work of a new force in the life of the people."—"Health and Wealth," by Louis I. Dublin, Ph.D.

# The Home Adjustment of the Problem Child\*

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WHEN given the title of this talk I immediately asked myself—"Just who is the problem child?" When is the problem that of the child, the home or the school? For we seldom find difficulties in all three. Then we ask, "How is he a problem?" and this seems to be the most difficult question to answer definitely. The problem is not very tangible.

We might define behaviour difficulties of children as those kinds of behaviour recognized and considered to be problems by the social group in which the child happens to be living. Such problems are a source of conflict between the individual child and the persons who wish to regulate his behaviour. The different experiences and personalities of parents, teachers and school nurses must make for differences in their reaction to the behaviour of the child. For example, parents who were strictly disciplined, or who had few educational advantages, or who have suffered reverses of one kind or another, would not react to the child's behaviour in the same way as parents who were leniently disciplined, well educated or always satisfied in their pursuits. Likewise teachers come to their classes with different backgrounds of experiences that cannot fail to be reflected, to some extent, in the management of their class-rooms. The nurse, due to her training and experience, also reflects these in her attitude towards the children. We, as a group, are prone to look upon them in the same impersonal way as we do a patient in a certain bed of a large hospital ward. Differences too, between educational systems make for different attitudes towards child behaviour. Two communities do not establish the same laws. Extreme differences in standards of behaviour are to be observed between different racial groups and different countries.

Because of tradition and personal beliefs about behaviour people ordinarily think of behaviour problems purely in terms of the offending individual and by this are blinded to the interaction between the child and the social forces that operate to produce the behaviour disorder. In approaching each separate case study we must learn to do so with a perfectly unbiased mind, search out the amount of modifiable material and proceed to work, always guarding against pigeon-holing a patient as a particular type and leaving it at that.

\*Presented at the Annual Meeting, Ontario Educational Association, Toronto, April, 1929.



Whether or not a given family or school situation proves to have a disturbing and inhibitory effect on the child's progress, depends very largely on the disposition of that child. Some children seem crushed by situations which others are able to disregard. Some teachers will consider of greater seriousness problems relating to sex, dishonesty, disobedience and failure in application to school work, than the withdrawing, recessive personality disorders, which have much more disastrous and lasting effects upon the individual.

There is often a health element involved which, perhaps, because of our profession, we are apt to over-emphasize. This brings us to a comparison of the attitudes of the mental hygienist and of the teacher; each profession focuses its attention and interest a little differently from the other. The mental hygienist sees the social and emotional adjustments of the individual or, in this case, the child; the chief interest of the teacher is in the educational accomplishments of children.

The systematic mental hygiene movement is really nothing more than an organized attempt to render the adaptation and growth of an individual, or a group, as nearly ideal as possible. With this ideal of adaptation to strive for we must build up a scale upon which our adaptations, as well as those of others, can be ranged in degrees of greater or lesser adequacy. With this as our starting point we can attempt to carry out the active part of the programme, that is, prevention of inadequacy when possible and correction where prevention has failed or has not been attempted.

Both in the physical and the mental field it is most imperative to take off some of the burden, by an appreciation of or an attempt at compensation for any handicap. The child may have shortcomings in the intellectual or physical fields that tend to make him less fit to fight the battle. If these are observed and compensated for at an early period it will permit the child to go on developing even if somewhat slower than his classmates. When this is not done the child is likely to break down under the additional strain and develop any of the undesirable behaviour patterns.

We must consider the "atmosphere pressure" of the home life, its harmonies and disharmonies, its ideals, its attitudes of respect for the feelings of others, for civic institutions, for religion, etc. Consequently formal education is going back into the home and nursery to prepare the child for elementary school.

The change from the protected home atmosphere to the cold, strange, impersonal environment of the school is abrupt in any case. The child has to give up old patterns and pick up new; so it is in the lowest grades that we are apt to find the real difficulties.

The teacher's reactions are too often determined in direct relation to the immediate effect of the behaviour upon herself, frustrating her teaching purposes, and are regarded as relatively more important than problems which affect the welfare of the child. We might even be



led to think that the teachers often regard submissive, dependent behaviour as more desirable in the classroom than aggressive, experimental, independent behaviour.

Teachers are not the most serious transgressors, however; most parents from the beginning of time, have assumed the responsibilities of rearing their young without having undergone any special training to fit them to the task. Eve had no parent education group. However, to-day many able-minded students are concentrating on this study with the resulting flood of material some of which is most devastating and some of which is most practical. May I give you some examples of actual cases handled by our Division of Mental Hygiene, Department of Public Health.

Helen was an attractive, serious-eyed, little girl of not quite five years. She was found to be talking to herself as if addressing imaginary playmates. She told her parents stories about the kind parents these imaginary children had, how the children never had to take cereal, did not have to sleep in the afternoon and never received punishments from their parents. Both father and mother became alarmed at this behaviour, first trying to talk the child out of it, then actually punishing her and, after delving into some printed matter, they decided to bring the child to a psychiatrist, with the statement, "I am afraid she is like my great uncle who was queer." Her early history and that of her family were examined and proved negative but it was found that each parent had decided views on child-training and the father particularly favoured whipping and this had been resorted to. Evidently Helen's parents did not know that children, like some dumb animals, respond better to the lure of pleasure than to the spur of pain. The psychiatrist tried to bring out this point and also to show why the child had to resort to imaginary playmates when kept exclusively in the company of her parents. While the father protested that he was never cruel to the child, yet certain concrete suggestions and interpretations of the playmates were given him. These parents were both ready for help. The worker saw each parent separately, then, after collecting all data, a full interpretation of the case was given them when together. Fortunately these parents had the intelligence and the willingness to work in harmony and after one year's help and guidance through the clinic the result was most encouraging.

We cannot expect to reach our goal until such time as all those persons who are involved in child training realize the inter-relationship of child guidance with the later well-adjusted school child. In a certain class of parents we find the difficulty of the spoiled child, disciplined irregularly and inconsistently or not at all. There is the unwanted child. A child always knows when he is not liked, no matter how the parents try to disguise this dislike, and he is seldom squarely treated. The broken home and the patched-up home are breeding spots for discontents and grudges which are manifested in after life by

rebellion against all authority and seldom indeed can a stable, emotionally well-balanced child develop from such insecure foundations.

Freddie was a healthy-looking boy of 12 years, and had an intelligence quotient of 110. He was considered an exceedingly bright boy by his teachers and while at school gave no trouble. Summer holidays came along and soon Freddie was in Juvenile Court for stealing bicycles. He was staying out all night and, when apprehended, was found some miles out of Toronto. The police were notified and they told the mother. Mrs. B. came directly to the district nurse, "Oh, please don't let them lock him up, it was my fault. I scolded him and he just rushed out of the house and he didn't mean to do it," etc. Fred got off that time. In three weeks he was again in difficulty; again mother protected him. The case was taken up in our Division, as we already had made one very good contact with the boy. We found him a boy petted and coddled by his mother. (She had been married a second time and showed plainly that the second husband was a "meal ticket" only). "Freddie looked so like his father and had his same 'sweet ways'." (First husband had filled an early grave from over-indulgence). The whole case was very thoroughly explained to the mother, but she could not see the error of her ways, continuing to pet and protect the boy, and was blocking all help that could be given her. We had to withdraw, our time was being wasted; we were going where we were not wanted and could be of no help. The boy has been committed for two years to a correctional school. It is to be hoped that at the end of two years Freddie will have gained more sense and will not yield to his mother's every whim.

Perhaps one of the hardest things for us, as children's workers, is to realize the correct time to withdraw ourselves from a case. I have found my best plan is to take a case, to map out my liabilities and my assets, weighing one against the other and either let up a little and concentrate on something a little more hopeful, or, if the liabilities outweigh the assets, to withdraw. If the contact has been good the family will come back to you and are then ready to work with you. If the contact is not good you are wasting time, anyway.

In closing I would like to give you one more case, for after all it is really from actual cases that we get our experience, and I don't think one can evaluate too highly the assistance derived from using a personality study of one's own life, honestly made with an idea of using oneself to help others; and until we are "put on paper" I do not think we can know ourselves.

Dorothy was a girl of 13 years, and of average intelligence. She was tall, curly haired, attractive and well-mannered. She was referred to us for truancy, open defiance of the teachers, and, upon investigation, we found from the parents that stealing was a failing of hers. What did she steal? "Why, silk stockings from her mother's cupboard." Who hasn't done this? Did she steal anything else? "No, but she

lies and is awfully saucy." The situation was this: Dorothy was going to a school where every girl was well dressed. She looked odd. (The silk stockings were only worn by her mother on state occasions). The father was in the home all day with a heart condition, which, although serious and being carefully cared for, did not prevent him from using a cat-o-nine tails on an adolescent girl. Dorothy's older sister "went bad," left home, worked in a laundry and married early. Dorothy was headed the same way, her father was quite sure, and told her so often. Perhaps Dorothy was beginning to think so too. The mother a very mild, gentle, suppressed, little woman who did not like Camp nor did she approve of Dorothy going. She actually saw two girls lose themselves away from the Camp and smoke. They were evidently the volunteer helpers. Dorothy had no place or no one fit to play with. The sins of this world were numerous and the virtues few and the sins that the father didn't see, the mother did.

Now some would immediately say: "Why not place Dorothy in a boarding home?" This is a very great responsibility. We don't know any home until we actually live in it. There is also the proposition of getting the real home ready to receive the patient on her return. Placing children in boarding homes is a most difficult piece of work, and should be only done as a last resource. What we really need in Toronto is an observation home where children could be observed in a group by an experienced person and where the home life would be as nearly normal as possible.

Fortunately for Dorothy we were able to carry on for some 18 months, and finally, when she was ready to begin her commercial course, we managed to place her in a home as mother's help and each night she returns to her own home and leaves early each morning. Fortunately the father is not able to complain to Dorothy's employers. There has been no more pilfering. Dorothy is not against the government. She is succeeding and the father and the mother are proud of her and so are we, for at one time things looked gloomy indeed.

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# The County as a Unit of Public Health Nursing\*

BY

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CANADA can boast of good climatic conditions, lack of overcrowding and as high a standard of living as any country in the civilized world, and so with a growing appreciation of public health work it would seem logical to expect county health units to spring into existence almost spontaneously. However, in actual practice this is not the case and history shows that it is a slow and arduous task to educate rural communities and local authorities in the importance and the value of county health work.

As the inspiration of Canadian public health was gained from England, it is extremely interesting to look back even briefly over a few of the historical events that led up to and influenced the system now in use there.

The Plague in the reign of Charles II followed by the Great Fire in London led to the first Housing Act, which laid down regulations governing the height of houses but did not prevent refuse from being thrown into the streets.

With the industrial revolution came overcrowding and appalling living conditions; unsanitary conditions continued to exist for many years and disease was rampant. During this time organized water supply and proper drainage were practically unknown.

In the latter part of the 18th century, following Jenner's discovery of vaccine, a period of scientific and sanitary awakening began.

In 1831 the cholera epidemic stimulated further effort to improve sanitation and the first board of health was formed with local boards to investigate conditions.

In 1837 began the present system of birth and death registration and at this period public opinion was aroused over a report which showed that women and children were employed in night work and children under nine years worked in factories on twelve hour shifts.

Various acts dealing with specific conditions were passed during these years and in 1848 the first Public Health Act gave Local Authorities greater power and a Central Board of Health was formed. Chad-

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wick as a member of the Board stated that money spent on sanitation would reduce poor-law expenses but the Board met with strong opposition from private individuals, vested interests and political sources, and on the resignation of the members of the Board the Times comment was: "We prefer to take our chance of cholera and the rest, rather than be bullied into Health."

It was not until 1875 that the great Public Health Act was passed and it is still in force.

Today the Ministry of Health is the central health authority responsible for carrying out this act.

All measures in connection with the health of the people, including prevention and cure of disease, treatment of mental and physical defects, care of the blind, research work, publication of information and statistics and the training of persons for health services become the duty of the Minister. The local authority is the county council and this is an independent unit within the county responsible directly to the Ministry of Health. The public health duties of the council are: supervision of all other authorities in the county, appointment of a medical officer of health, making by-laws and administration of the Isolation Hospital Act, the Housing Act, the Education Act, the Maternity and Child Welfare Act, the Midwives Act, the Mental Deficiency Act, etc.

From this very hasty description of the history that led up to the establishment of county health units in England one can see the responsibility placed upon the county authorities and the care with which such a scheme must be planned.

I have chosen England as an example as the work there has been tried out for a longer period than in any other country, and with true British democracy each county is allowed to work out its own system, provided the character of the work accomplished meets with the approval of the Ministry of Health and provided also that the Public Health Act is carried out.

#### ORGANIZATION AND PERSONNEL

It would seem that the secret of the success of county health work is the county medical officer and it is most important that he should be chosen with the greatest care, have the necessary preparation for his work and have the entire confidence of the public.

All officers, both medical and nursing, must be full-time. In England, of course, the staff is large, consisting frequently of one medical officer of health and several assistants, one superintendent of public health nurses and from twenty to seventy-five health visitors or public health nurses. Since April, 1928, all health visitors in England, appointed for the first time, are required to possess the certificate in Health Visiting approved by the Ministry, which actually means that



all public health nurses are fully trained registered nurses with six months additional training in public health. Practically all hold the certificate from the Central Midwives Board and are eligible to practise midwifery if called on to do so.

The plan of organization for any county health nursing service will vary according to conditions and must be adapted to meet local circumstances and needs; and in Canada today there is a definite tendency to endorse some scheme by which the people of the rural districts and small villages may receive some form of health service.

With our large counties, scattered population, vast distances, indifferent roads and extremes of temperature, we have an entirely different problem from that of an English county. There it seems practical to divide the county into districts according to population and area. The county town is chosen as headquarters for the medical officer and staff and each district has its own office. The superintendent of public health nurses draws up a plan of work under the direction of the medical officer of health and a regional superintendent is appointed for each district. It does not appear to be feasible to include towns of over 25,000 in a general county health nursing unit, and usually such a centre has an independent health department with a staff sufficiently large to look after its local needs.

#### THE DUTIES OF THE PUBLIC HEALTH NURSE

The duties of the public health nurse in any county unit must consist of general public health work of an educational nature including ante-natal, post-natal, infant welfare and pre-school visiting, school medical inspection, tuberculosis visiting and attendance at all clinics which come under the direction of the medical officer of health.

In few counties in England do the county nurses attempt a bedside nursing service, as such a service, combined with general public health work, demands a very large staff. There they are particularly fortunate in having a voluntary organization known as the County District Nursing Association organized for that purpose. However, emergency bedside care will be given by the county nurse but with the idea of teaching some member of the family the simple procedure to follow in order that she may be better fitted to meet a second emergency.

The public health nurses are responsible for following up the birth registrations in the entire county with the exception of the large towns mentioned previously. Each nurse averages about 600 visits in her infant and pre-school work during the year.

#### *Infant Welfare Work*

It is difficult to find any village, however small, in England that has not a well organized Infant Welfare Centre. Most of these centres are provided and equipped by voluntary committees, but must meet



with the requirements of the Ministry of Health and be approved by the medical officer of health before they can be established or receive the grant of 50 per cent of cost of total maintenance from the Ministry.

The clinics are conducted in much the same way as the clinics in Canada. A doctor is in attendance at the request of the county medical officer of health. He examines new arrivals, also all babies not showing a regular gain in weight. Sick babies are referred to the family physician for treatment. An attempt is made to examine some of the pre-school children, but due to the limited staff and pressure of time only a few seem to find their way into the examining room. The public health nurse attends the clinic regularly and acts as superintendent, thus insuring uniformity of management and co-ordination of the work of the voluntary committees, which play such an important part in all health and social work in England. Voluntary workers look after the toddlers and so leave the mothers free to listen to the advice given by the doctor about the infant.

#### *Ante-Natal and Pre-School Children*

Several of the infant welfare centres serve as ante-natal and school treatment clinics. Usually a room is reserved for the pre-school children, where they are allowed to play and where, under the supervision of a member of the committee, who has, if possible, had some experience in nursery schools, they acquire some idea of the early habits so essential to healthy child life. Short health talks are given to the mothers by the doctor or health visitor. These health talks frequently deal with the important subject of nutrition, as it is well known that malnutrition usually begins in infancy and has become a habit of the body before school age. It is believed that poverty has much to do with it and may be a direct cause, but more often poverty is the indirect cause as it is so frequently accompanied by ignorance, unsatisfactory home conditions and disease. Samples of children's garments are on exhibition and material for baby clothes is sometimes sold at cost price and occasionally cod liver oil, virol and different forms of dried or canned milk are also for sale, especially in very poor localities.

The supervision of all the midwifery comes under the direction of the medical officer of health and adequate ante-natal supervision is recognized as the true preventive midwifery.

Dr. Marie Brown in an article entitled "Maternal Morbidity and Mortality" in the *World's Health* says: "Child birth today, among the most highly civilized of the human races has become a process fraught with pain and penalty during which death and birth go hand in hand more often than is seemly . . . . Maternal mortality has lessened very little during the last twenty to thirty years. . . . The problem is not purely medical; it is chiefly a question of economics

and education and it must be met by legislation which, in itself, is the outcome of public opinion."

If education plays such an important part, surely the most powerful weapon against the disabilities of maternity is ante-natal supervision and, necessarily, it must take a very important place in any county health nursing scheme. Those who have been engaged in any type of rural nursing realize the problem before them when ante-natal supervision is mentioned. It is perhaps the most difficult service to render. However, the educational work that is being done through ante-natal letters, home visiting, ante-natal clinics and talks has laid a foundation that will ultimately show good results.

### *The School Children*

The county medical officer of health as school medical officer is responsible for school medical inspection. Through power given by the Education Act the system in England provides for the routine medical inspection by specially appointed school doctors of all children in attendance at school three times in their school life, at entrance, at eight years of age and at twelve years. Mentally or physically sick children of any age between five and fourteen may also be brought before the school medical officer anytime during school life.

Sir George Newman as Chief Medical Officer for England states in his last Annual Report of the Health of the School Child that the school medical service in England has the following aims:

1. To fit the child to receive the education provided for it by the State.
2. To detect any departure from the normal health and growth, and advise the remedy.
3. To seek the causes and conditions of the defects, and, as far as possible, prevent them.
4. To teach and practise personal hygiene in every school, so that a habit of hygiene may be contracted by the children.

The public health nurse arranges for all medical and dental inspections, notifies the parents and is present at all physical examinations. She is responsible for the weight charts, and does the first testing for vision and examines the children for pediculosis, scabies, ringworm, etc. Unless a follow-up visit is made to the home of the child suffering from a defect, school medical inspection is of little use as the parents must be advised and perhaps convinced of the importance of early diagnosis and treatment where children are concerned.

### *Orthopedic Clinics*

The school medical service includes the development of a scheme for the treatment of crippling defects. Orthopedic clinics are provided by voluntary committees at selected places in the county and approved by the county council and the Ministry of Health. The real success

of this orthopedic work depends upon the early discovery and treatment of defects, and especially is this true of infantile paralysis which is responsible for a large proportion of all cases of crippling. Orthopedic clinics are open to all ages but special attention is given to pre-school age children.

### *Tuberculosis Clinics*

Tuberculosis must necessarily play a definite part in any county health unit. The nurses in their daily rounds may find cases with suspicious symptoms. Tuberculosis clinics are in operation in all counties, and all ages are eligible for treatment. Contacts are referred for examination. An "after-care committee" is appointed for each dispensary to provide financial help, relief in the way of clothing and food and to arrange for suitable employment and assist with the care of children whose parents are sent to a sanatorium.

In addition to the routine work already outlined the public health nurse in a county unit must be prepared to organize and conduct classes in health subjects for girls and women of different ages, and be ready at all times to render the best possible public health nursing service to the greatest number, keeping in mind that there is no public health apart from individual health. She is at all times a teacher of health.

### NECESSARY QUALIFICATIONS FOR PUBLIC HEALTH NURSES

County public health nursing is generalized nursing in its broadest interpretation; therefore the staff must be most carefully selected. It is unfair to the nurse and to the community to recommend a nurse for country work who is not familiar with country life or has no inclination for it. At the present time it is quite impossible to expect that every rural nurse will have had special training in public health before accepting a position on the staff of a county unit. We have only a few post-graduate courses in public health for nurses in Canada, and the demand for these graduates far exceeds the supply. In the meantime we must carry on, and by careful supervision, staff conferences and extension courses, give to the nursing staff, new methods and discoveries which will enable them to improve the quality of their work.

From these statements, one can see that county health work is broad in scope if carried out with an adequate staff and equipment and proper administration.

In closing may I again quote from Sir George Newman who in his last Annual Report on the State of the Public Health says: "The improvement and perfection of the three implements of Public Medicine—a competent medical profession, a sanitary environment, and economic and effective public medical services is a matter of time and vigilance, of steady growth and wise amendment. In them we are building for generations to come."

# Modern Trends in Physical Education\*

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FOR many the title "physical education" is not only clouded but appears a glaring camouflage to disguise such a commonplace as "exercise." For many decades the profession has suffered from the universal and firm belief that it existed for the sole purpose of giving exercise, of developing a bulky musculature, of building a strong national army, or as a fad or frill to the school programme. In the minds of many the title "physical education" is a pedagogical gown that assumes an almost amusing appearance. Such opinions are to be expected in light of the fact that so many see education in its narrowest aspect. It is regrettably true that the practices of many professional workers loudly proclaim a confused idea of education, but it is also true that these practices should neither be considered representative nor should they classify all work.

For many years the profession gloried in such aims as obedience to authority, attentive behaviour, quick perception, accuracy, promptness, etc. In recent years these oldfashioned and inadequate aims have been buried and in their place are flourishing broader and more worthwhile conceptions, such as the development of desirable mental attitudes, socially acceptable traits, skills for leisure time, mental efficiency, education of the emotions, and, in short, a contribution to the whole of life. To-day, the profession is justifying its existence as a contribution to education rather than as mere exercise.

In order to appreciate the procedures of physical education at any one period of time, it is necessary to recall the ideals and customs of that period which have always been the factors determining education and in turn physical education. The trends of physical education cannot be considered apart from these other factors.

In the days of the early Greek Empire, Sparta, situated on the southern peninsula, was subject to momentary attack and the conditions of the time demanded a strong national defence. In consequence of this the education was of a militaristic nature, and physical education was emphasized for its ability to build strong bodies to serve in war time. During the Age of Pericles the Athenian history tells a far different story. The people of Athens were of an imaginative,

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creative nature, and these characteristics coupled with the reign of peace, which allowed for internal development of the country, were responsible for the informal, individualistic type of education. Physical education lost its militaristic purpose and existed for its enrichment to life.

During the Dark Ages the ideals and customs were saturated with asceticism and the dominating purpose of life on earth became the salvation of the soul. The aim of education was thus determined and physical education with its secular aspect and its considerations to the physical body was conspicuous for its absence.

At a later period when the peoples of the earth were divided into more clearly defined groups, there existed various nations and each developed a national end unique to itself. From then on, this national end has remained the dominating force.

At the close of Napoleon's triumph, the German states were in a deplorable state of subjection, and at this period was conceived the German *Kultur* which penetrated every corner of the Empire. It was this militaristic national end which saturated all education and aimed to develop in the great mass of people a submissive patriotism and docile characteristics. At this time physical education was valued for its contribution to the national army, and its aims and practices were distinctly militaristic.

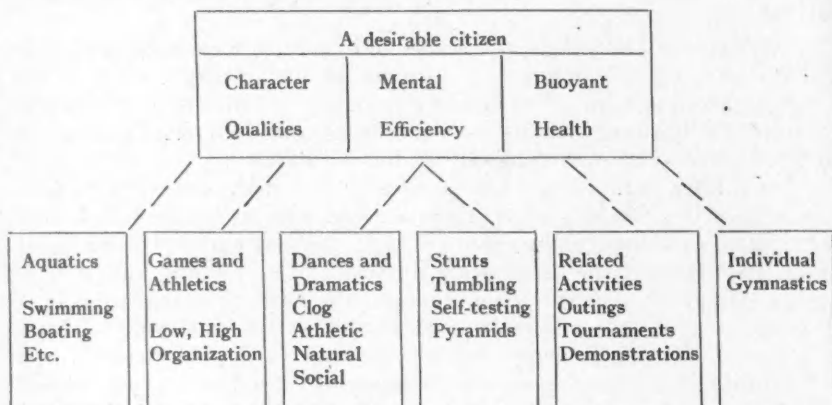
The early history of our New World is marked by the adventures and struggles of building a great nation out of barren wastes. There has been a continual demand for greater privileges of self-government and for a greater recognition of the individual. To-day, the leading nations are striving to shape their governments on democratic principles. the geographic position of the New World, the harmonious relations enjoyed by the countries, and the appreciation of the worth of an individual, eliminate the need for militaristic practices and demand such an education as will be democratic in nature. The aims of present day education are, therefore, to discover the potentialities of each individual and to provide equal opportunities so that they may be developed to the highest possible level. In brief, the aim of present day education is to develop a desirable citizen so as to build a desirable nation.

The education of the past has made the glaring mistake of dividing man into several parts and of trying to develop each as a separate entity. It has been guilty of delegating the mind to the classroom, the morals to the church, and the muscles to physical education. To-day we realize the inadequacy of such a division and appreciate the truth of the following quotation by Brereton:

"Though the subjects be many the child is one, and that therefore whatever education is given to it, that education must be a whole in itself . . ." It, therefore, follows that if physical education is to realize its claim as one phase of education and is to justify its title it must broaden its aims and practices to include the mental and social realms.



If citizenship is the aim of present day education we should first analyse the qualities of a good citizen and, then, harmonize our practices in physical education with them.



An analysis of the contribution of the modern programme in physical education to the qualities needed to develop a desirable citizen is as follows:

1. *Character qualities* include the attitudes which are developed and the standards of conduct which flow out of the activities. It is universally true that our actions are more often the result of our attitudes and ideals than of our reason. All phases of education in the past have been too prone to emphasize knowledge and to neglect the attitudes formed. It should be quite evident that a student never learns only one thing at a time, but that while engaged in learning certain subject matter some kind of an attitude is being formed, and that this very attitude is usually the most valuable learning of the situation. Whether the activity is a lesson in geography or a game of baseball the student is forming three distinct types of attitude, toward the place, the activity, and the other people. All too often the instructor of physical education is so absorbed in teaching certain exercises that she fails to observe that the children are forming a dislike for the work and a reluctance to come to the gymnasium. The teacher is responsible for everything learned during the period and should make every effort to select such activities and so present them as to develop a love of the place, of wholesome activity, and an enjoyment to mingle with other people.

Physical educators are apt to boast loudly of the character training values in the activities, but it must always be remembered that these values do not descend upon the student in the midst of the activity, but that they flow out of the participation provided it has been under wise leadership. The leader is the keynote of the situation.



Desirable qualities of character very largely depend upon having the instincts and emotions under control, and such control is gained only by providing an opportunity for their action and so controlling the situation by wise leadership that the result will be desirable. Informal game activities which allow for instinctive action and direct it into the right channel are leading to self-discipline; whereas, formal drill activities which demand obedience to a command are gaining forced conformity. We are all familiar with the person who submits quietly to force and runs wild the moment that the force is removed. Submission to external force carries no guarantee but the discipline which comes from high ideals and attitudes needs no force. Realization of this fact rather blasts the disciplinary value of formal gymnastics in that they do not allow for the control of instinctive actions.

To develop desirable ideals of conduct and acceptable social traits is among the primary aims of the modern programme, and it is our belief that the informal game activities offer the best opportunity to do this. To be able to mingle harmoniously with other people and to willingly relinquish personal whims for group ideas are rare virtues. In a lesson of formal gymnastics the social values are distinctly few, as, while the person is one of a group the demand is for machine-like uniformity and prohibits natural and free intercourse with others. The informality of plays and games provides a far more natural situation. To select such activities as demand silence from the students and which require only obedience to a command, deprives the students of the social and moral values which should accrue. If two activities are to be weighed in the balance the selection should be made of that activity which possesses the greater number of values.

One of the primary aims of the modern programme is to educate for leisure time, and the activity which contributes to it must measure up to the following standards:—1. To contribute to present leisure; 2. To contribute to future leisure; 3. To furnish recreation to body, mind, and spirit; 4. To furnish means for individual growth.

During the session of 1927-'28 at McGill University, questionnaires were given to the women of the freshmen class, in October and in May. The October questionnaire gave the activities learned in school and thus shows the emphasis of the programmes throughout the Dominion:

Gymnastics .....	% taken in school	91.25
Basketball .....		63.75
Dancing (not social) .....		55.
Apparatus .....		51.25
Baseball .....		41.75
Tennis .....		37.5
Swimming .....		31.25
Ski-ing .....		13.75
Badminton .....		8.75
Riding .....		2.50

The questionnaire given in May asked for the activities in which the student participated out of school hours, in order of preference, and the results were as follows:

Dancing (social) .....	17.9%
Tennis .....	16.1
Swimming, Ski-ing .....	11.7
Golf .....	10.2
Badminton, Hiking .....	8.8
Riding .....	7.3
Skating .....	5.8
Basketball and Fencing .....	1.4

It may be readily seen that the great emphasis of programmes has been on gymnastic exercises which have made practically no contribution to the leisure time activities.

It is often claimed that the gymnastic exercises develop the motor co-ordination so necessary in games, but it is also true that the person trained in gymnastic exercises has not learned the skill required to play any game. The skill developed in such exercises serves excellently in performing that particular activity, but contributes little in striking the tennis ball, swimming, etc. The educational principle of "learn by doing" is universally accepted to-day, and when interpreted in terms of physical education means that the way to become proficient in any activity is to participate in that activity, and to develop the motor co-ordination in relation to the need. The expert tennis player is a person who practises tennis.

It is a common practice to offer gymnastic exercises, tactics, apparatus, and an occasional game during the required period of physical education, and to organize an after-school programme of the informal activities, making the attendance voluntary. The required programme reaches 100 per cent of the student enrolment, whereas the voluntary programme reaches from 10 to 75 per cent. Such a programme does not achieve the full potential contributions to leisure time.

There has been a mistaken belief that a game serves only as amusement rather than giving it credit for the mental, social and physical values.

Many physical education teachers discard the informal activities as being useless with large classes. One needs only to glance at the physical education periodicals and see the numerous articles on Mass Tennis, Mass Boxing, Mass Basketball to realize that it is quite possible to develop game skills in large classes.

In light of the present day problem of mis-spent leisure there is small justification for the programme of activities which begins and ends in the gymnasium.

2. *Mental efficiency* is another objective of the modern programme.

Dr. Frank MacMurray, Professor of Education at Columbia University, has given us in his book "Elementary School Standards," four standards for judging all teaching which are: 1. The work must have a motive for the student; 2. The work must require organization by the student; 3. The work must demand consideration of values by the student; 4. The work must allow for student initiative. If the teaching is to measure up to these criteria the activities must be so selected and presented as to present mental problems and to allow for independent thinking. The work must be a challenge to the mind as well as to the muscles. The work which demands only obedience to a command makes a questionable contribution to mental efficiency. If the instructor prepares such a lesson as tells the students exactly what to do, requiring only obedience to a command, he is not developing qualities of leadership or initiative and is depriving the student of the opportunity to do constructive thinking. If, however, the teacher allows the student some share in the responsibility of the lesson, problems will arise which lead to sound habits of thinking. In order to provide these values the squad organization for class work has arisen. The size of the class determines the number of squads and the leader is elected by the members of the squad. Leaders are periodically changed so as to distribute the opportunity. Squad leaders meet with instructor before the lesson and during the lesson they assume full charge of the activities of their squad. The instructor circulates among the squads as a guide rather than as a dictator.

3. *Buoyant Health.* In the past the profession has justified its existence as a health procedure. In any subject there are primary and accessory values and the contribution of physical education to the health is of the latter type. The health values are embodied in the exercise and are entirely dependent on the type selected, the suitability to the participant and the environment in which they are carried on. It must always be remembered that exercise is only one of the factors so essential to health, as nutrition, daily practice of health habits, correction of defects are of equal importance. Such a view does not mean that the health values are neglected for the suitable programme of wholesome activities will achieve them as inevitable results.

As a further analysis of the subject, one activity included in the programme of activities will be discussed in light of the foregoing aims. I shall select competitive athletics for girls and women as the example. In so doing I am braving possibly the most discussed and fought over subject in the entire programme. It is not the activity which is questionable but the principles and methods of those who use it.

The fact that athletics is only one of the many activities included in the physical education programme is often forgotten, particularly by the person who considers that the professionally trained physical educator is a pure theorist with no practical experience in athletic activities. It would be interesting to learn what that person considers

to be the duties of a physical education instructor. This mistaken idea may have arisen from the fact that the professionally trained instructor is interested in every girl and in the educational values to be obtained, whereas, the non-educator coach is concerned with the few who possess outstanding athletic aptitude and an unbeaten record.

If athletics are to contribute to desirable qualities of citizenship, the governing principles must be educationally sound. If desirable qualities of character are to be an end result, the ideals and practices of the instructor or coach must be above reproach. Glorification of the winning score will never contribute favourably to ethical character. Supreme effort from the player is included in every analysis for good sportsmanship, but should never be confused with the ignoble motto, "to win", for the latter may easily embrace unscrupulous methods. It is far more worthwhile in the life of the player that she should develop, as a result of the activity, ideals of good sportsmanship, wholesome attitudes, and desirable social traits, than to gain an athletic reputation of no losses. It is extremely deplorable and unwholesome when prizes of material value and flashy newspaper articles centre the interest of the player in the score rather than in the personal satisfaction and joy of participation. Competitive athletics have a potential but not inevitable contribution to make to ethical character.

Athletics offers as great an opportunity to develop mental efficiency as any other subject in the curriculum, but, as with other values, the result depends upon the instructor. When the competitive element is high, the tyranny of the average coach deprives the player of the mental values. During the preliminary training and in the match game numerous situations arise which demand analytic thinking, and offer an opportunity for constructive organization. In too many instances the coach plans all the tactics of play, and requires mere memory work and muscle strength from the player. During the progress of a match game it is not uncommon for a coach to remove a player, point out tactics used by the opposing team and send the player back into the game better equipped to win. Such a coach has done most of the thinking, used the player as a mere tool, and has wandered far from the educational aim. After all, is it the game or the player we should try to develop?

To organize athletics so that they contribute favourably to the health of the player requires careful consideration. Health is not measured by muscle strength or athletic prowess, but by the possession of such qualities as allow the person "to live most and serve best."\* Both the activity and the rules governing it should be selected from the standpoint of the girl rather than the all too common practice of having girls participate in activities suited to boys. The anatomic structure and physiologic functioning of the girl are different from

\*J. F. Williams, *Personal Hygiene Applied*. W. B. Saunders and Co., page 18.

those of the boy and should be safeguarded when organizing and controlling athletics. In light of these facts it is sometimes amusing that the non-professional coach will have so little hesitancy in promoting activities for girls and women which the professional physical educator would hesitate to organize. It is in no sense an effort to develop a feeble type of athletics for a weaker sex but rather an attempt to approach the matter scientifically, to shape the game in relation to the participant, and to safeguard the future as well as the immediate after-math. It is an effort to consider the girl rather than the game that has led physical educators to advocate women coaches and officials for all competitive sports and to absolutely condemn the procedure of having girls and women trained by men and from the standpoint of activities suited to men.

It is mainly during the adolescent period when competitive sports are engaged in and a study of the characteristics of this period shows emotional instability to be one of the outstanding factors. If the activities are to favourably influence health they should tend to lessen rather than increase this condition. It is inconceivable to believe that the excitement immediately before, during, and after the competition could be classed as stabilizing, and it seems quite reasonable to think that this emotional effect would be in proportion to the keenness of competition. It would therefore, appear that the intra-mural competition would be more wholesome to the emotional status than the inter-scholastic and national competitive events.

There is nothing more wholesome than a programme of *suitable* activities, constructed on democratic principles, which provides active participation for every girl and encourages the poor as well as the capable athlete. The programme should adopt as its slogan "Every Girl in a Game."

From an educational standpoint the programme cannot be justified which concentrates on one or two activities and which neglects those in greatest need of the work by training a few skilled players for a fast game so as to obtain gate receipts.

The programme which places educational values above muscle training will measure up to worthwhile standards and will contribute to the development of a desirable citizen by forming commendable traits of character, mental efficiency, and buoyant health.

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# Editorials

## ESSENTIALS IN POLIOMYELITIS CONTROL

CAREFUL consideration has been given by medical officers of health during the past few months to the measures that should be taken in case of a poliomyelitis epidemic. Dealing with this subject Dr. J. P. Leake, Surgeon, United States Public Health Service, in a recent address, stressed the importance of making permanent the provision both for the collection and use of convalescent serum and for the after-care and muscle training of paralytic cases, recognizing the fact that if such provision is not made until the outbreak becomes apparent, half the damage will be done before these measures can be made available.

Recognition of the pre-paralytic case is absolutely essential if serum is to be used effectively. That such recognition of the early case is possible in a very large percentage of all cases of poliomyelitis during an epidemic is unhesitatingly affirmed by Drs. McEachern and Bell in their article which appears in this issue. The results of the use of convalescent serum in the early cases in their experience warrant frequent re-iteration of the importance of early diagnosis until this has become of general medical knowledge. When the disease first appears in a community few cases can be expected to be recognized before the onset of paralysis, but once the disease has appeared and is recognized, the health department, physicians, and parents must co-operate in making possible the early diagnosis and serum treatment. Several of the provincial departments of health have prepared letters or pamphlets which have been sent to physicians to remind them of the early suspicious and characteristic signs of the disease. The Federal Department of Health likewise has taken active steps to assist in the control of this disease. A booklet has been prepared and published which contains the essential facts in a form suitable for the public and it is hoped that a very widespread distribution may be made of this most helpful and timely publication.

The collection of serum from recovered or convalescent patients can be readily carried out by the various provincial departments of health by utilizing the facilities of their own provincial diagnostic laboratories—particularly if this serum service is organized and continued on a permanent basis. A supply of serum can be available in this way at all times as the serum retains its protective qualities for

a period of at least a year. By keeping a list of suitable donors available additional supplies of serum can be readily collected.

The proper treatment of the patient requires prolonged rest in bed with careful supervision by the attending physician to prevent or limit deformity. This important requirement in the treatment should be stressed in presenting the facts to the public. The importance of the departments of health supplying assistance of specialists, to physicians, in order that unnecessary crippling and deformities following this disease may be prevented, is emphasized by Dr. Leake. "There comes a time in practically every case," he reminds us, "when the proper care becomes too irksome for the family to carry on without the moral support and stimulus of some such agency as a consultant orthopedist with nurses or physiotherapists particularly skilled and trained in this disease; and it is a rare family which can afford the expense of such prolonged, continuous, and special skill unless the treatment is supervised under some such auspices as those of the State of municipal department of health."

Following the epidemic in Alberta in 1928 a survey of the province was made. This survey showed that orthopedic treatment was urgently needed by at least sixty cases. A new orthopedic hospital was built to accommodate these and was opened early in 1928. Adequate hospitalization of the majority of cases is, however, out of the question and the assistance of the clinical specialist to physicians is one of the urgent requirements in meeting an epidemic of poliomyelitis.

## AMERICAN PUBLIC HEALTH ASSOCIATION

### 58TH ANNUAL MEETING

THE forthcoming meeting of the American Public Health Association will be the 58th which has been convened by this Association. In many ways the history of the Association is the history of the development of public health on this continent. Through all the years of the Association's life, Canadian public health workers have been accorded a most hearty welcome and a full share in the privileges and responsibilities of the Association. The American Public Health Association is continent-wide in its spirit of co-operation and fellowship as well in its service to public health. Each meeting emphasizes the splendid spirit of goodwill and which has always characterized the Association and its international work. As in past years, a large Canadian representation is expected for the programme is one of exceptional interest and the city of Minneapolis has long been noted for its generous hospitality.

# INDUSTRIAL HYGIENE

F. G. PEDLEY, B.A., M.B., D.P.H.; J. G. CUNNINGHAM, B.A., M.B., D.P.H.

AN INVESTIGATION INTO THE SICKNESS EXPERIENCE OF PRINTERS.  
(WITH SPECIAL REFERENCE TO THE INCIDENCE OF TUBERCULOSIS)

IN 1925, the Industrial Fatigue Research Board was requested by the Joint Industrial Council for the Printing and Allied Trades and the Newspaper Proprietors Association of London, England, to arrange for some enquiry into the problem presented by the fact that the death rates from tuberculosis among printers at all ages is definitely higher than the corresponding rates for all occupied males.

It is indicated that in the past, three explanations have been suggested:—

- (1) The printer's liability to tuberculosis may be due to his contact with lead, since it has been stated that lead poisoning and tuberculosis go hand in hand in the printing trade, both being highest in the occupations with greatest exposure to lead.
- (2) That working conditions, as a rule, are poor, with cramped quarters and insufficient ventilation, aggravated by the possibility of carbon monoxide in the air.
- (3) That the industry may attract persons with poor physique.

These explanations have not been proved to be correct, so that the question is still unanswered. The present enquiry is confined to consideration of the data themselves.

The data for this investigation were obtained from the records of sickness from 1921 to 1925, in nine approved societies attached to the trade with

the addition of one society of the more "general" type, operating under National Health Insurance.

The Report defines the occupations which are discussed, and contains numerous statistical tables with a discussion of the figures contained in them.

The occupational mortality rates for England and Wales show that printers, while they compare favorably in their general death rate with all occupied and retired males, suffer unduly from tuberculosis at all ages. Compared with the social class to which they belong, that is, social class No. three, as defined in the Registrar-General's Occupational Mortality Report, 1921-23, which excludes the middle and upper classes and agricultural workers among others, the printers compare in tuberculosis mortality nearly as unfavorably as they do with all males.

Their sickness experience is less than that for all insured males but with respiratory tuberculosis they are consistently in an unfavorable position.

Comparing occupational groups in the printer's trade with one another, it is shown that compositors have a larger amount of illness than the other groups in the first few years of insured employment, ages 16 to 19. This is due to many causes such as infectious diseases, rheumatism, diseases of

\*A. Bradford Hill, Ph.D., Report No. 54, Medical Research Council, Industrial Fatigue Research Board.

the digestive system and of the nervous system, suggesting that if working environment is responsible for this experience there are factors other than massive infection operating.

In later employed life and up to the age of 60, they have distinctly less illness from most causes than others in the printing trade.

Compositors are almost entirely responsible for the pronounced tuberculosis rate in the age group, 16 to 19, and this unfavorable tuberculosis experience extends to the age of 30 and re-appears at ages 60 to 69.

On the other hand, machine printers have, at the older ages, high general sickness rates including that for tuberculosis.

Since compositors and machine printers are the most important branches of the trade as measured by size, the Report suggests that the high incidence of morbidity among compositors in early insured life, ages 16 to 19, and the high incidence among machine printers in middle insured life, ages 30 to 59, form the major problems.

#### SPRAY PAINTING PRACTICES AND HAZARDS IN THE UNITED STATES

THE May, 1929, issue of the Monthly Labour Review of the United States Bureau of Labor Statistics contains a report of an investigation into Spray-Painting Practices and Hazards in the United States. This investigation covers 71 manufacturing and mercantile establishments and 8 Government posts.

The purpose was to determine what has been done to overcome the hazards of the process during its development and what can be done further to protect the worker or to eliminate the inherent dangers of the process.

The results of the investigation have been summarized as follows:

- (1) "The best practices largely overcome the hazards of the process.
- (2) Most large and some small plants have installed high-grade equipment, while some small plants have taken no steps whatever toward protection.
- (3) The development of non-poisonous substitutes for lead and benzol has for most purposes reach-

ed a point where it is not necessary to spray materials containing harmful ingredients.

- (4) Where materials containing benzol or lead compounds are used stringent regulations should be maintained.
- (5) Several States have already adopted, or have inaugurated a definite movement to adopt, special regulations or have worked out a definite means of controlling the process and protecting the spray operators."

The Report emphasizes the wide variation that exists, in the substances in use and the conditions under which spray-painting is conducted. At the same time, stress is laid on the enormous extent to which the spray-painting machine is employed and the economic considerations involved.

The Report concludes with a summary of State regulations regarding spray-painting. Wisconsin passed the first regulations dealing specifically with the subject, in 1925. Massachu-

setts and Michigan also have special regulations while California, New York and Pennsylvania, have tentative codes. In Illinois, New Jersey, Ohio and Colorado, the hazard is controlled under general legislative provisions

for the protection of health. In Maryland and Wyoming, and the United States Congress, Bills have been introduced to regulate the hazards in the process.

*J. G. Cunningham.*

## PUBLIC HEALTH NURSING

RUBY M. SIMPSON, REG.N., AND FLORENCE H. M. EMORY, REG.N.

### THE ORGANIZATION OF PUBLIC HEALTH WORK IN THE KELOWNA RURAL DISTRICTS, BRITISH COLUMBIA

ANNE F. GRINDON, REG.N.

IT is a most interesting, stimulating and somewhat alarming experience to be sent to develop all phases of public health nursing in a territory of some one hundred square miles; to be given the opportunity to sell public health nursing to small rural communities, that perhaps have never thought about the matter or if they have thought, consider nursing to mean bed-side care of the sick and preventive work in general rather a waste of time and very unnecessary! But what a wonderful opportunity to till virgin soil and "make two blades of grass grow where none grew before!" And what satisfaction amid the stress and toil to see the work gradually develop under one's hand.

Kelowna Rural Districts consist of thirteen small farming communities, scattered over an area of some one hundred miles, each with its school and board of school trustees, with a total school population of some six hundred children. Six of the school boards had expressed a desire to the Provincial Board of Health to have a school nurse, and it was my duty to

visit all the other schools and convince the rate-payers and school boards of the value of the health service which could be rendered in their schools, and in the community life in general.

On reviewing the total situation and planning a programme, there appeared to be six main avenues of approach. It would be necessary to enlist the sympathy and co-operation of the local physicians; the teachers in the schools; the mothers in the homes; the local women's organizations; the boards of school trustees; and the rate-payers at large. The first step therefore, was a personal call on each local physician, armed with a letter of introduction from the Provincial Board of Health. In this interview I endeavoured to explain just what I was planning to do, offered my services and asked for their sympathy and co-operation in the work. Here I had a most encouraging and kindly reception. This step is placed first because I feel that in any health scheme it is most important that the local physician should be in sympathy with the work, for he has the confi-



dence of the public at large and has it in his power to greatly hinder or greatly assist the health nurse and medical officer of health in their work.

The next step was a call on the inspector of schools, which also met with a favourable reception. He very kindly gave me letters of introduction to all the teachers, asking for their co-operation in the schools. These letters were invaluable; they gave the right tone to the entry of the school nursing service and secured the splendid co-operation of the teachers without which the work is so much hindered and its effects neutralized.

So much for the schools, but how was the infant welfare and pre-school programme to be promoted? Most fortunately there were in four of my districts three local Women's Institutes and a Women's Club. A chat with some of the members and a letter to the secretary asking for help and interest resulted in an invitation to speak on Child Welfare Work at the various monthly meetings. These opportunities were eagerly seized and the value of such work was put before the members. Here I met with a most cordial reception and found the members much interested in the health service and willing to co-operate in the promotion of local well-baby and pre-school clinics. I have found that the Women's Institutes in any community are the most invaluable allies in the promotion of health work in all its phases. It is often the Institute which has sponsored the idea of a health nurse in the first place, and which holds out a welcoming and helpful hand to the nurse when she arrives.

The next step, that of enlisting the

sympathy of the mothers, was carried out by home visiting to infant, pre-school and school children, and to the expectant mother. In a few cases of severe illness a practical demonstration of bed-side nursing was given, but it is impossible in a large and widely scattered area, served by one nurse, to give a generalized nursing programme, because it interferes so much with the time that should be devoted to educational work. Even so, the health nurse is often called in as a consultant in sickness and wins the confidence of the mother in this way, besides being invaluable to the local physician in the report which she is able to give him. When visiting in the districts where the rate-payers in general did not want a school nurse, I impressed upon the mothers that if they wished to keep the nursing service they must use their influence at the annual meeting of rate-payers. The results were quite good!

The fifth and sixth steps of enlisting the sympathy of the school boards and of the rate-payers at large were perhaps the most difficult of all. The school trustees are locally appointed and are guardians of the school finances, and also responsible for seeing that the provisions of the School Health Act are carried out in the schools. I have found that a personal visit when troubles crop up, or a round table conference, explaining our methods and aims, in which the advice and aid of the trustees as health guardians is sought, is an excellent way of obtaining co-operation and help. A personal heart to heart talk will do more good than a dozen letters, and the trustees are quick to recognize the fact that the health nurse really

cares for and is interested in the well-being of the children.

We have partly solved the problem of working with thirteen different school boards by the formation of the Kelowna District Schools' Health Association, to which each school board is asked to appoint a member. This was made possible by the enthusiasm and interest of a public spirited citizen who voluntarily acted as secretary-treasurer and spent much time in organizing the Association. To him we owe a great debt of thanks. The Association deals with the partial financing of the school nursing service, on a *pro rata* basis for each school child, and also acts as an advisory committee to which the nurse can bring her problems and give reports. At present the executive is working on the problem of a school dental clinic, a difficult problem for many reasons, chiefly monetary. To enlist the sympathy of the public in general takes time and education. An invitation to speak at the rate-payers' meetings was gladly accepted, but the only way to convince

a community of the value of the work is by the results obtained.

I could not close a description of organizing public health work in the Kelowna Rural Districts without a reference to the splendid co-operation of our full-time Medical Health Officer and School Medical Officer, Dr. G. A. Ootmar. To work hand-in-hand with a man of his wide experience in health work is a privilege in itself, and without his appreciative co-operation very little could have been accomplished. And last but not least, are the understanding and inspiring letters from the Provincial Board of Health which always seem to come just at the right moment and are a veritable source of inspiration and comfort. In spite of all criticism and difficulties it is a joy to carry on, for the field is so varied and interesting and opportunities for service are countless. There is great satisfaction in even a very partial demonstration of what can be done for the good of a community by the establishment of a public health nursing service.

## EPIDEMIOLOGY AND VITAL STATISTICS

F. W. JACKSON, M.D., D.P.H., AND NEIL E. MCKINNON, M.B.

### UNDULANT FEVER

THE clinical picture and the epidemiological problem of undulant fever as a public health question are presented very thoroughly in Public Health Reports of July 12, 1929, by H. E. Hasseltine of the United States Public Health Service. He is unable to say, owing to lack of reliable statistics, how much undulant fever there is in the United States. Various state

laboratories have agglutinated all serums submitted for Widal or Wassermann tests and the positive results vary from 0.6 per cent to 7.5 per cent—the variation being attributed to the different titres considered necessary to give a positive report. He quotes Hardy to show that, in 1926, 7 states reported 34 positives; in 1927, 18 states reported 194 positives and in

1928, 40 states reported 560 positives. He was able to find 300 cases reported in the literature since January 1, 1927. How many cases have passed unrecognized or recognized and not reported, is not known. The suggestion is made that besides requiring notification, each state department of health should issue a leaflet of information to physicians in regard to the supposed prevalence, diagnosis, etc.

The following description of the clinical case is given:

"Among other diseases that may be confused with undulant fever are typhoid and paratyphoid fever, tuberculosis, rheumatism, malaria, influenza, focal infections, sinusitis, appendicitis, and tularaemia.

"The first symptom usually is a general feeling of weakness in the afternoon, accompanied by headache, or general aching. The patient then discovers that he has fever, which is usually preceded by chilliness, or a definite rigor, followed by a hot stage and a rather profuse perspiration, particularly noticed upon awakening. If questioned closely, most patients will report that the sweating is limited to the upper half of the body. It is quite common for patients to feel so well in the morning that they want to go to work; if they do, they are ready to quit early in the afternoon. When seen in the febrile stage the patient appears only slightly ill; and if his temperature is taken, it will be surprising to find it  $1^{\circ}$  to  $3^{\circ}$  higher than the general appearance of the patient would indicate. The daily variation is usually marked, being at or near normal in the morning, and going to  $102^{\circ}$  or  $104^{\circ}$  in the afternoon. If taken every four hours, a rather irregular curve within each day is fre-

quently noted. The blood picture usually shows a slight anemia, a slight leucopenia, and a considerable increase in the lymphocytes, with a corresponding reduction of the polymorphonuclears. After the fever has risen by irregular steps to a maximum of  $103^{\circ}$  to  $104^{\circ}$ , occasionally higher, it usually declines by lysis, and remains normal for a period varying from three days upward. Then another febrile wave begins, usually not quite so severe, nor quite as long as the first, followed by an afebrile period slightly longer than the first. Some cases have but one febrile wave, others have them irregularly over a period of one to three years. The general symptoms of the disease come and go with the febrile wave. Joint pains, especially upon getting about after the fever has returned to normal, are present in most cases. They vary from slight pain to moderate interference with the function of the joints. Anorexia, constipation, insomnia, and increased irritability are present in the majority of cases.

"Among complications reported, the most prominent are orchitis, or epididymitis, and abdominal conditions caused by a localization of the infection in the viscera, particularly in the female reproductive organs. Prostatic symptoms have been noted in the male, and abortion in pregnant women has been attributed to the infection on frequent occasions."

For diagnosis, he suggests that whole blood be drawn and sent to the laboratory where the serum can be used for agglutination and the clot for culture. He points out the necessity for incubating primary cultures a long time—10 days to 2 weeks—before considering them negative.

In connection with the epidemiology of undulant fever, there are many questions to which a definite answer cannot be given. The fact that, in rural cases, the males outnumber the females about 5 to 1, suggests, as indeed it has been shown, that milk is not the only path of infection, although it is probably the most important one. Contact with the infected animals is probably very important, and the animals may be cattle, swine, goats and horses. Infection is always a possibility among laboratory workers handling the organisms.

The age incidence always raises an interesting question. Why is the greater number of cases found among adults? Is this due to the lack of susceptibility of children or are the symptoms and signs in the child so atypical that the diagnosis of undulant fever is not made? Although it has been stated on good authority that calves rapidly eliminate the infection and that it seems difficult for the organism to maintain itself in sexually immature animals, Hasseltine wants more definite information in this regard before the question of age susceptibility or resistance can be decided.

So, too, more data are required before it can be established whether or not undulant fever may be a specific cause of abortion in women. And why, in view of the probable widespread presence of *Br. abortus* in milk, is undulant fever not more prevalent? The writer answers by asking the pertinent question, Why do not a greater percentage of those exposed take typhoid in a community with an impure milk or water supply? He concludes:

"We also know that the bovine strain of *Br. abortus* is less pathogenic for animals than the goat or swine strain. We believe that resistance to disease is a variable factor among persons, and differs in any particular individual at different times. We know from experience that seed and soil are not always the only factors necessary to insure reproduction. When we find the necessary factors that determine the incidence of infectious disease and learn how to control these factors so that the proper combinations for the production of disease will not occur, our communicable disease problem will be much simplified, if not completely solved."

#### REPORTED CASES OF CERTAIN COMMUNICABLE DISEASES IN CANADA\* BY PROVINCES—JULY, 1929

Disease	Nova Scotia	New Brunswick	Quebec	Ontario	Mani- toba	Saskat- chewan	Alberta	British Columbia
Diphtheria....	15	14	168	184	85	32	54	47
Scarlet Fever..	47	32	269	164	54	39	94	15
Measles.....	38	105	158	954	99	185	73	241
Whooping Cough.....	12	—	135	247	38	153	14	4
German Measles.....	—	—	9	5	†	5	6	1
Mumps.....	—	1	34	137	41	34	11	123
Smallpox.....	—	—	1	57	1	—	—	19
Cerebrospinal Meningitis..	5	—	10	1	2	1	3	—
Anterior Poliomyelitis	—	—	4	1	3	—	2	6
Typhoid Fever	1	7	77	23	17	2	4	12

\*Data furnished by the Dominion Bureau of Statistics, Ottawa.

†Not reportable.

## NEWS OF THE ASSOCIATION

### REPORT OF THE GENERAL SECRETARY FOR THE YEAR 1928-29

J. T. PHAIR, M.B., D.P.H.

I WISH to present for your consideration the following brief report for the year just ended. Much that is of interest to the Association and its members has been put into effect since our meeting in Winnipeg in October last. Your executive officers have met on five occasions and have given studied consideration to the suggestions of the Council and the Annual Meeting.

An effort has been made to stimulate the standing committees of the Association, and an additional committee was formed to study the question of undulant fever in Canada. All of these committees will report at this meeting, with the exception of the Committee on School Sanitation, the Chairman of which asks that it be re-appointed, with the hope that before the next annual meeting, it may have something of interest to bring before the members.

Your Executive Committee, after careful consideration, decided to hold the 1929 Annual Meeting in the City of Montreal, at or about the time of the meeting of the Canadian Medical Association. While it had been the hope of the officers that it might have been possible to hold the meeting in the extreme East, certain circumstances made this inadvisable.

It is not thought wise to elaborate on the problems surmounted in the transfer of the Journal from the York Publishing Company to this Associa-

tion; nor is it my intention to refer to the activities of the editorial board or the board of management, but merely to remark that the "Journal" is now the property of the Association, that our relations with the directors and shareholders of the York Publishing Company are as friendly as ever and that the name of the Journal has, as suggested at the meeting of last year, been changed to the Canadian Public Health Journal. While I presume the secretary of the editorial board, Dr. Fenwick, will deal at length with the acts of that body, I wish to add a word of appreciation of the services rendered by the members of that board in the interests of the Association and its Journal. It is to be hoped that it may be financially possible this year to appoint some well qualified person who will undertake certain of the editorial responsibilities and relieve the members of the board who have given so largely of their time to the detail work of the Journal. I should also like to refer to the very generous way in which the Association has been treated by Dr. Bates and the Canadian Social Hygiene Council as regards office accommodation, etc.

The question of grants from the Federal or Provincial Governments, either as direct contributions, or as advertising, has been referred to the Council, and appears on the agenda, for your consideration. The Province



of Ontario contracted, in December of last year, for one page monthly, and it is hoped that the Federal Department and some of the other Provinces will assist the management committee in a similar manner.

A membership drive has been recently undertaken, and it is the hope of the Committee that it will result in the enrolling of as near one hundred per cent of those actively engaged in public health work in Canada, as is possible.

The Child Health Section of the Association prepared, and printed a series of small school-health posters. These have been regularly supplied to several of the provinces, but the edition has been exhausted. There is still available for sale a supply of health blotters which were printed at the same time and are identical in design and wording with the small posters. It is the intention of the Committee to draw the attention of the provinces and the health departments of our cities to this educational material through the columns of the Journal.

Your executive at the November meeting assumed the responsibility for putting into effect the motion which had been passed at the annual meeting defining the tenure of office of all officers of the Association as the calendar year, irrespective of what time of the year the annual meeting is held.

A communication was forwarded

to all the new members of the Association welcoming them to membership, and giving them some of the historical background, aims and objects of the Association. It is planned to again send out such letters this year.

I regret to report the death of Dr. Maurice M. Seymour, one of the honorary life members of the Association, who died suddenly in January of this year. His death left a gap which will be difficult to fill in public health affairs on this continent. Dr. Seymour has contributed a large measure of faithful service to the Association and his helpful criticism and counsel will be missed by your officers. The retirement of Dr. A. C. Jost from public health work in this country is also regretted by all those who had an opportunity of coming in contact with him. His appointment as Executive Officer of the State Board of Health for Delaware, following so quickly upon his retirement from the service in Nova Scotia, bespeaks the high esteem in which he is held in the country to the south of us.

I should like, in conclusion, to offer my sincere thanks to the officers of the Association, and the members of the Executive Committee, for making the task of the Honorary Secretary lighter, and to Dr. McKay for his generous assumption of the post of Acting Secretary during my absence this year.

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# FIFTY-EIGHTH ANNUAL MEETING

## AMERICAN PUBLIC HEALTH ASSOCIATION

MINNEAPOLIS, MINN., SEPTEMBER 30—OCTOBER 5, 1929

THE American Public Health Association is this year holding its annual meeting from September 30th to October 5th, in Minneapolis, Minn., with which some eight related American and Minnesota organizations are holding combined sessions. The American Public Health Association, whilst primarily concerned with the wide field of public health endeavour in the United States, must also be considered American in the international sense of that qualification in that not only does the Association afford such expert assistance to Canada as exemplified in the Montreal Health Survey, but also on the present Governing Council are included the names of gentlemen distinguished in public health work in Canada, officers and members of the Canadian Public Health Association. Its active membership, moreover, is restricted to the United States, Canada, Mexico and Cuba. Therefore, with this scope, we feel that any Canadian public health worker who desires to retain a balanced perspective of his chosen field on this continent could not do better than to participate in this annual meeting.

The scope of the preliminary programme is most comprehensive. The Child Hygiene Section is holding joint sessions with the American Association of School Physicians, the Public Health Section and the Public Health Nursing Section; the Epidemiological

Section meets in joint session with the Laboratory Section and the Health Officers Section. Similarly, joint sessions of other important sections are being held during the course of the meeting, making it possible to arrange programmes around definite problems with papers from the contributing sections.

The general sessions will be held at the Hotel Nicollet with sectional and other meetings in the Municipal Auditorium. The address of the President, Mr. George W. Fuller, will be delivered on Monday evening. The annual dinner of the Association will be held on Thursday evening when Dr. George E. Vincent, President, The Rockefeller Foundation, will give an address.

The following are the sectional sessions: Health Officers; Vital Statistics; Public Health Engineering; Industrial Hygiene; Food, Drugs and Nutrition; Child Hygiene; Public Health Education; Public Health Nursing; and Epidemiology. In addition to the foregoing, there are the meetings of the associated organizations: the American Child Health Association, the American Association of School Physicians, the International Society of Medical Health Officers, American Social Hygiene Committee, the conference of State Laboratory Directors, and several organizations of the State of Minnesota.

The preliminary programme of the

entire meeting covering more than fifty sessions, has been published in the July issue of the American Journal of Public Health. Hotel reservations should be made at once directly with the hotels. Additional information can be obtained by writing to Dr. Richard O. Beard, Executive Secretary, Minneapolis Local Committee.

The Committee have arranged most admirably for entertainment and trips about Minneapolis, and finally the mention may be made of what has now become an institution at these annual meetings, — the Canadian luncheon—which will contribute to what will be one of the most successful annual meetings of the American Public Health Association.

## NEWS AND COMMENTS

P. A. T. SNEATH, M.D., D.P.H.

### THE WATERWORKS CONVENTION

IMPORTANT PAPERS PRESENTED AT THE WATERWORKS CONVENTION HELD AT THE ROYAL YORK HOTEL, TORONTO, JUNE 24-28/29

THE recent convention of the American Waterworks Association, meeting in conjunction with the Canadian section of the same body, proved to be a very successful one. The registration reached a total of over 1100—one of the largest gatherings ever held by this group. It is just twenty-one years since the Association last held a meeting in Toronto. The presence of this group of eminent waterworks officials and engineers afforded a wonderful opportunity for those engaged in similar activities in Ontario and surrounding parts. The papers were of a high order, and the discussions which followed together with the large number of excellent exhibits rounded out a most instructive and educational programme.

To public health and waterworks officials certain papers and exhibits

were of particular importance. The American Waterworks Association draws membership from all parts of Canada and the United States. Consequently at these meetings there is expected a presentation of the most important problems encountered during the current year. The experiences and findings of the men actually engaged in practical waterworks operation and research are made public to the great advantage of all those faced with these problems. This year's convention was not lacking in subjects of importance nor in the presentation of material of interest to fellow workers.

In the meetings of the water purification division, special attention was centred on the report of the committee on "Standard Methods of Water Analysis." A new edition of these methods is to be published next year jointly by this association and the American Public Health Association. The most important change from the present methods will be the adoption of brilliant green lactose bile broth in the confirmation test for colon bacillus. The meeting

also adopted the recommendation that further bacteriological studies be made for testing members of the colon-aerogenes group, the colon index and non-confirming spore-forming lactose fermenters, and the detection of streptococci. On the chemical side a programme of further studies was also outlined and included among others the detection and estimation of phenols in water, estimation of minute amounts of cyanide, of soluble and colloidal silica, and of manganese, enumeration of plankton organisms and the microscopical examination of water.

Consideration was given to the effect of micro-organisms in water and their effect upon filtration. The presence of certain types of plankton in water in the spring creates serious difficulties in the operation of filters. The sand becomes clogged and back-washing is necessary at abnormally short intervals.

Innovations in the Treatment of Water in Ontario were discussed in a paper by A. V. DeLaporte, and included super chlorination treatment for taste prevention, and the use of aeration for colour removal, iron removal, prevention of taste and odor, and facilitation of coagulation.

The relation between *B. coli* and *B. aerogenes* in water analysis was considered in a paper dealing with the use of cyanide-citrate agar. The authors claimed success in the use of this medium for the differentiation between fecal and non-fecal groups.

The presence of lactose fermenting organisms growing on leather washers used in hydrants and in pumps was thoroughly discussed, and indicated the possibility of false results in the analysis in as much that these or-

ganisms ferment lactose but are not typical *B. coli*. They are known to grow in larger numbers on these washers.

The use of activated carbon in removing taste producing substances from water was a new feature which created much interest. John R. Baylis of Chicago described his experiments in this work and pointed out the very encouraging results which had been secured in removing phenolic and chlorine tastes from water. The absorptive powers of activated carbon have been well established, and if the process can be developed to the practicable stage it should prove a very useful aid in the production of water of improved palatability.

An interesting paper on water-borne disease epidemics on steamships on the great lakes was presented by I. W. Mendelsohn of the U.S. Public Health Service and discussed by G. H. Ferguson, Chief Engineer, Department of Pensions and National Health, Ottawa, and J. I. Connolly of Chicago. The importance of protecting the water supplies on these boats has been well established and the decided decrease in typhoid fever and intestinal diseases from this source has been gratifying.

The sterilization of new water-mains before being placed into service was given prominence in a paper presented by J. S. Strohmeyer of Baltimore, and followed by a good discussion. The necessity for carefully following this practice met with general agreement. Special equipment has been placed on the market for the convenient introduction of the chlorine to the main. A further feature in chlorination has been the

development of a standard valve for chlorine containers. In this way, many of the difficulties of the past will be removed.

In the field of waterworks operation papers were presented by J. G. Keith, on experiences with the Windsor Filtration Plant, while W. E. MacDonald of Ottawa, presented a paper on the "Operation of a Canadian Waterworks." The present Toronto system and the proposed extensions were also described in details.

In addition to the other excellent papers on engineering subjects the display of equipment proved most extensive and interesting, and particularly for those contemplating the purchase of new equipment. Among the exhibits of chlorinating equipment several new machines were on display; and included the several types of apparatus, fire-pump chlorinators for particular use on cross-connections between domestic and fire supplies, chlorinators for sterilizing water-mains, portable chlorinators, and chlorine-residual equipment for automatically recording, and maintaining a constant chlorine residual at all times in a water supply. The latter equipment is still being developed. A model of a deep well water supply works was also of wide interest. Other interesting exhibits included dry-feed chemical equipment, meters, piping, pumps, mechanical equipment for coagulation and removal of solids from water, as well as all equipment and machinery needed in the waterworks field.

In the Canadian section the election of officers resulted in the following executive: Past Chairman, J. O. Meadows, Montreal; Vice-Chairman,

W. C. Miller, St. Thomas; Chairman, Marcel Pequegnat, Kitchener; Trustees, E. V. Buchanan, London, W. E. MacDonald, Ottawa, Jas. J. Salmond, Toronto, A. U. Sanderson, Toronto, A. E. Berry, Toronto, T. H. Hooper, Winnipeg, and N. J. Howard, Toronto.

The presence of this waterworks convention in Toronto undoubtedly resulted in a most profitable time for those privileged to attend. In addition to the material presented in the papers the opportunity for coming in contact with fellow workers and discussing mutual problems was exceedingly valuable. It is unfortunate that more health officers did not register, and avail themselves of those several papers which were of like interest to them and to the engineering profession. Those who were unable to attend will find in the papers published in the engineering journals much of interest and value.

## PUBLIC HEALTH EXHIBITS

### CANADIAN NATIONAL EXHIBITION

**E**ACH year the public health exhibits of the Department of Health, Ontario, have attracted increasing attention from the great throngs of visitors at the Canadian National Exhibition. When it is remembered that almost two million persons paid admission to the exhibition last year, the opportunity is appreciated of emphasizing to the public the importance of preventive medicine and the actual work of the Department of Health.

A very large section of the Provincial Government Building is occupied this year by the Department of



Health exhibits. Emphasis is being placed on the work of the vital statistics, dental hygiene, and laboratory divisions. On the invitation of the Honorable Dr. Forbes Godfrey, Minister of Health, Ontario, the Canadian Social Hygiene Council, the Canadian Council on Child Welfare, the St. John's Ambulance Association and the Canadian Red Cross Society are presenting their work in suitable exhibits as a part of the whole department exhibit. The splendid co-operation of the Department with voluntary agencies is thus exemplified in a very practical manner. In the Women's Building, the Toronto Child Welfare Council and the Child Welfare Committee of the National Council of Women are stressing the community's responsibility for guaranteeing to every child normal home life in a private home.

A luncheon will be held on August 26th when the president of the Academy of Medicine, Dr. W. W. Jones, will be the speaker and representatives of the Dominion, provincial and city boards of health will be guests of honour. During the afternoon the programme will be continued with representatives of the Victorian Order of Nurses, Visiting Housekeepers Association, and from the Department of Health at Ottawa. On August 27th a special programme will be presented by the Toronto Child Welfare Council and an address will be given by Dr. J. T. Phair of the Department of Health, Ontario, and Secretary of the Canadian Public Health Association. Health plays will be presented from time to time and a daily programme has been arranged. The exhibit of the Child Hygiene section of

the Canadian Council on Child Welfare is presenting in a striking way the infant mortality rate in Canada. The fact that 94 out of every 1,000 infants born in Canada never reach their first birthday is to be graphically illustrated by the use of baby dolls placed on a series of steps which represent the first twelve months of life.

It is hoped that Miss Mary Power, B.A., Director of the Division of Public Health Education, under whose direction the Ontario Department of Health exhibits have been prepared, will prepare an article again this year on the Department's exhibits for publication in this Journal.

#### ROYAL SANITARY INSTITUTE

THE fortieth congress of the Royal Sanitary Institute was held in Sheffield from July 13th to 20th under the presidency of Earl Fitzwilliam. The business was divided into six sections, — preventive medicine, architecture and engineering, hygiene of food, hygiene of industry, maternity and child welfare (including school hygiene) and veterinary hygiene.

#### ROYAL COLLEGE OF SURGEONS (England)

FOR the first time in the history of the College, primary fellowship examinations were held outside England. The examiners sat in Toronto from August 6th to August 10th, facilities being placed at their disposal in the Anatomy Building of the University of Toronto. Twenty-five candidates from various parts of Canada, India and New Zealand sat for these examinations.

The board of examiners were the following: Sir Holburt J. Waring, member of the Council of the R.C.S. and surgeon to St. Bartholomew's Hospital; Prof. W. Wright, Chairman of the Board that sat in Toronto, and professor of anatomy at St. Thomas' Hospital Medical School, and Prof. John Mellanby, professor of physiology at St. Thomas' Hospital Medical School, and Prof. C. Lovatt-Evans, Professor of Physiology at University College, all of London, England.

Heretofore all candidates have been obliged to go to London. Those successful in these examinations, after the lapse of a stated period, may present themselves for the finals, which will continue to be held in London.

#### Nova Scotia

THE annual meeting of the Association of Medical Health Officers of Nova Scotia was held at Pictou Lodge, Pictou, on June 25th, 1929. The meeting as usual was held in conjunction with the annual meeting of the Nova Scotia Medical Society. In addition to the usual routine business, the Presidential Address and the reports of the various committees were received and adopted.

The scientific part of the programme was this year incorporated in the general programme of the Medical Society and consisted of a paper by Dr. Grant Fleming of Montreal, on the present status of sera and vaccines in the prevention and cure of communicable diseases. Following discussion the Medical Society went on record as recommending toxoid immunization against diphtheria in children and the use of antitoxin in the treatment of scarlet fever.

The President of the Society was in receipt of a letter from the Honourable Minister of Natural Resources, J. F. Mahoney, asking for the co-operation and constructive suggestions of the Medical Society in matters relating to the public health programme. This letter was very cordially received and a strong committee of the Medical Society appointed to co-operate along the line asked for by Mr. Mahoney. This co-operation between the practising physicians and the Government augurs well for the public health movement in Nova Scotia.

#### New Brunswick

DR. HENRY I. TAYLOR, Minister of Health of New Brunswick, had the honorary degree of LL.D. conferred upon him at the commencement exercises of the University of New Brunswick at which he gave the principal address.

#### Quebec

THE Overseas Nurses' Association of Montreal held a garden party during the International Convention of Nurses at the Ste. Anne's Military Hospital, Ste. Anne de Bellevue. About six hundred nurses together with many distinguished overseas guests attended. The President of the Association, Mrs. Stuart Ramsay, together with Miss Galbraith, Matron of Ste. Anne's Hospital, received the guests. The Hon. Dr. J. H. King, Minister of the Department of Pensions and National Health, was represented by Dr. F. S. Burke of Ottawa, and the Staff of Ste. Anne's Military Hospital was represented by Captain Boyd.

The counties of Kamomaska and l'Islet have voted the necessary tax for the establishment of the 13th county health unit in the Province. It is probable that this unit will commence its activities before the end of the year.

The Provincial Bureau of Health has notified the authorities of the City of Quebec that an adequate purification scheme shall be established for the water supply of the municipality within the next twelve months.

#### Ontario

**D**R. W. E. GALLIE of Toronto, has been appointed Professor of Surgery at the University of Toronto, succeeding the late Dr. C. L. Starr.

#### Sanitary Inspectors' Association

The Ontario division of the Sanitary Inspectors' Association held the annual convention in Windsor during the early part of August. It was decided to hold the 1930 convention at Oshawa. The following officers were chosen: Alex. R. White, chief sanitary inspector of the C.N.R. of Montreal, Honorary Vice-President; E. Picton, of Hamilton, Secretary; and the executive committee,—A. Allen, East York; T. Gordon Miller, Windsor; H. Sander, London; and E. Rothary, Sudbury.

The following were appointed by the City of Toronto to comprise the local Old Age Pensions Board: Dr. G. P. Jackson, M.O.H., chairman; John O'Connor, vice-chairman; and the following members: John Dillon, Charles M. Carrie, and Mrs. W. L.

McFarland, with B. Merson of the Treasury Department as secretary of the Board. Until the completion of offices in the Manning Chambers, the work of the Board is being carried on in the Department of Health at the City Hall.

Dr. J. A. Laxton, Assistant Director of Laboratories, of the Department of Public Health, Toronto, has been appointed Director of Medical Services.

Dr. R. P. Hardman, D.P.H., has been appointed to the Department of Health, Ontario, in the Division of Preventable Diseases.

#### Manitoba

**T**HE Rev. W. G. Smith, until 1921 Associate Professor of Psychology at the University of Toronto, has been appointed Director of the Child Welfare Division of the Department of Health and Public Welfare.

Mr. John Foggie, who for sixteen years has been with the Winnipeg Department of Health, has been appointed a provincial sanitary inspector under the Provincial Epidemiologist.

The 1929 session of the Provincial Legislature has occasioned some amendments to existing public health legislation, a remodelling of "The Tuberculosis Control Act" and the introduction of "The Private Hospitals Act".

Three Bills were approved amending the Public Health Act:—

The first provides for additional appointments of health inspectors and sanitary inspectors, with an outline of the duties of the former, and provision

for equalization of assessment under the municipal commissioner's levy.

The second provides for the organization and maintenance of full-time health districts, the Minister of Health and Public Welfare being empowered to submit a scheme to the councils of a group of municipalities of not less than a stated combined population, who shall consider same, and, should this not be approved by the councils concerned, the scheme shall be put to the vote of the electors of the municipalities if such is the subject of petition by fifty electors of any given municipality.

The third provides for compulsory vaccination and inoculation at the discretion of the Board of Health as protection against smallpox and typhoid fever for all employees in any lumbering, wood-cutting, timber, mining or construction camps. Exemption is provided for Christian Scientists, and conscientious objectors are subject to quarantine for four weeks at their own expense.

The Marriage Act is amended to provide for the marriage of contracting parties not resident in the Province of Manitoba for at least fifteen days prior to application for license.

The Vital Statistics Act is amended, assigning the recording of vital statistics to the Department of Health and Public Welfare, providing for earlier submission of monthly returns and making provision for the recording of the birth of children who are adopted, so that a birth certificate may be recorded under the original name and subsequently under the adopted name upon the granting of a decree of absolute adoption by a judge of the county court.

The Private Hospitals Act, a new enactment, defines private hospitals and provides for the qualification of the superintendents. Such hospitals are subject to license on application, accompanied by a fee of ten dollars, to the Minister of Health and Public Welfare, provided the applicant and the proposed private hospital meet with the requirements laid down in the Act and with the approval of the Minister. This Act becomes operative November 15th, 1929, and is applicable to all hospitals not receiving government aid.

"The Tuberculosis Control Act" replaces "The Manitoba Sanatorium Act" and provides for and limits the membership of the Sanatorium Board of Manitoba. The Act is designed for the care and treatment of *bona fide* residents of the Province who are afflicted with tuberculosis, for the prevention of the development and spread of the disease, for assistance in the training of persons concerned in the care and treatment of tuberculosis, as well as for co-ordination and correlation with all voluntary agencies similarly engaged.

### Alberta

THE Municipal Hospitals Plan is proving to be most acceptable to the municipalities. Of the twenty districts that have adopted the plan, nineteen are now in operation. It is anticipated that six new districts will submit the scheme to their respective constituents for vote this year. Requests have been received from four other districts for preliminary organization work.

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The administration of the Old Age

Pensions Scheme in this Province is to be under the Workmen's Compensation Board. Many applications for benefits under the scheme have already been received.

One travelling clinic is operating under the Department of Public Health of this Province. A greater length of time is being spent in each of the 34 clinic centres, the itinerary being from May until October. Accompanying Dr. Washburn, the executive head and surgeon to the clinic, are Dr. Margaret Owens, the recently appointed public health woman physician, two dental surgeons, and four nurses.

Dr. T. H. Whitelaw, who has been the Medical Officer of Health of the City of Edmonton for 22 years, has resigned and has taken an extended holiday before resuming practice in Edmonton.

Dr. Chas. P. Fitzpatrick, formerly a member of the staff of the Provincial Hospital, Pouska, has been appointed Superintendent of the Provincial Mental Hospital, Oliver, in the place of Dr. D. N. Dick, who has resigned.

Dr. R. B. Jenkins, D.P.H., has been appointed Medical Officer of Health for Edmonton.

#### British Columbia

**M**ISS Margaret Kerr, B.A.Sc. (nursing), a graduate in 1927 of the five year course of the Uni-

versity of British Columbia, has obtained her Masters Degree from Columbia University in New York. Upon graduation Miss Kerr became a member of the public school nursing service in Nanaimo; Vancouver Island. Receiving a Rockefeller scholarship, she attended Columbia University and is now travelling under the auspices of the Rockefeller Foundation studying public health. Her itinerary includes New York, Boston, Cleveland, Montreal, Toronto, Nashville, Tenn., Alabama, Louisiana and California.

The laboratories of the Vancouver General Hospital, which also function as the largest of the four Provincial public health laboratories under the Provincial Health Officer of British Columbia, have recently adopted the Kahn test for syphilis in addition to the Wassermann tests as a routine procedure. This laboratory examines over 100,000 specimens of all kinds annually, about half of which are clinical and the remainder of a public health nature. These latter include some 10,000 Wassermann tests, the Kahn being additional to these.

Poliomyelitis convalescent serum has been supplied to physicians by this laboratory for some time and measles convalescent serum has been available of late. In addition to the supply of mailing outfits for use in outlying districts for the diphtheria, Wassermann and tuberculosis tests, facilities are now available for obtaining specimens from the same areas for the blood agglutination tests.



## BOOK REVIEWS

D. T. FRASER, B.A., M.B., D.P.H. and R. R. McCLENAHAN, B.A., M.B., D.P.H.

### **Laboratory Diagnosis and Experimental Methods in Tuberculosis.**

—By *Henry Stuart Willis, the Johns Hopkins University and Hospital. Charles C. Thomas, Publisher, Springfield, Ill., and Baltimore, Maryland.* pp. 316. \$3.50 cloth, \$4.25 keratol.

As the title indicates this recent work on the problem of tuberculosis deals with the laboratory diagnosis and some experimental methods. Although dealing with this aspect, it is abundantly correlated with the clinical aspect of the subject and very attractively arranged. A very convincing feature of this work is the plethora of references in the bibliography including the most recent work.

The author has divided the book conveniently into five parts. In part one general considerations of the body fluids and excreta are outlined, giving details as to methods of obtaining such and examining same. Part two takes up bacteriological diagnosis with considerable attention given to various stains, outlining the method of preparation of the stains and the relative appraisal of each.

The various methods of concentration whereby the tubercle bacilli may be demonstrated in material are given in detail and one is pleased to read of the relative merits of these methods as gleaned from experience and that the more simplified ones still are exceedingly reliable. Considerable attention is given to culture media, and culturing, and here again the benefit

of the experience of the author is given in pointing out the advantages of each. A chapter is very wisely devoted to the non-pathogenic acid-fast bacteria and the ready means of differentiation.

In part three, diagnosis by use of tuberculin is outlined, giving a list of a few of the important tuberculins and the methods of preparation. The standardization and dilution of tuberculin are very clearly and concisely given. The diagnostic application of tuberculin and the various tests are enumerated and in the summary the author points out the common mistake of expecting too much of the test—and that thorough appraisal of the tuberculin test will at times be of considerable value in diagnosis.

Part four deals with serological diagnosis, a chapter of which is written by J. Stanley Woolley, Loomis Sanatorium, Loomis, N.Y., on tuberculo-complement fixation. The opening remarks outline the principles underlying the complement fixation reaction especially as used in the diagnosis of tuberculosis, followed by the details of the test illustrated with tables. The Petroff technique and the Loomis-Kolmer technique are given with the details and results of each. Speaking of the value of the tuberculo-complement fixation test, the author states that carefully conducted tests should yield from 60 to 80 per cent positives depending on the stage of the disease and altogether is very

encouraging as to the value of the test as an aid in diagnosis.

Other serological tests are given with mention of Caulfeild's Inhibitive Reaction, the fairest interpretation of this reaction we have yet seen in print.

Part five, the concluding portion, deals with experimental tuberculosis including the means of inoculation of animals with the tubercle bacillus, and a very fine description of the lesions produced and the methods of studying these lesions.

A chapter on histological technique rounds out a well-balanced work. In all it is a book outlining numerous diversified methods in the study of the problem of tuberculosis, exceedingly well appraised and very concisely presented, of great value to the physician and student as well as the special worker.

This is the best work of its kind that has come to the reviewer's attention. It should be well read by everyone engaged in tuberculosis work and, too, by routine and research workers in other laboratories.

M. H. Brown.

**Cancer Commission**—*Report submitted by the Radiological Sub-commission, League of Nations, Health Organization, Official Number C.H. 788, June, 1929.*

This report presents the findings of the sub-commission of radiologists in

the treatment particularly of uterine cancer with radium. It was realized that a study of the findings would be necessarily limited to a small number of institutions possessing lengthy experience and to consider as cured cases only those in which at least five years of survival after treatment had been proved. Three clinics, namely at Stockholm, Paris and at Munich, were used in the study. The bulk of the report consists of the details of the methods followed and the results obtained as reported by the director of each clinic. These reports are given in detail. As a summary, one may state that the position already reached by radio-therapy in the treatment of uterine cancer is highly encouraging.

To make possible future comparison of treatment and result, agreement was reached regarding a standard classification of stages of the disease and a standard form of case record was prepared. This form is recommended to all clinics and hospitals for their acceptance.

The sub-commission draw attention to the necessity of ensuring further international co-operation with regard to radium treatment of cancer. It is to be hoped, therefore, that at the next session of the cancer commission the sub-commission on radiology will be continued and further findings published.

R.D.D.

## BOOKS RECEIVED

*Health Habits.* Books one and two. By William W. Burkard, Raymond L. Chambers, and Frederick W. Maroney. Lyons and Carnahan, 221 East 20th Street, Chicago, 1925. 424 pp. Price \$1.00 each.

*The Conquest of Cancer by Radium and Other Methods.* By Daniel T. Quigley. The Macmillan Company of Canada, Publishers, 70 Bond Street, Toronto, 1929. 530 pp. illustrated with 334 engravings. Price \$6.00.

## CURRENT HEALTH LITERATURE

D. T. FRASER, B.A., M.B., D.P.H.

### **Incubation Period of Poliomyelitis.**

—*Aycock and Luther, J. Prev. Med., Vol. 3, March 1928.*

The authors have gathered data from various sources in order to determine the incubation period of poliomyelitis: milk-borne outbreaks; cases following tonsillectomy; isolated groups of cases in the same locality where contact could not be traced; cases where a single known contact occurred; certain instances of multiple cases in families where the individuals had separated before onset of the disease; and an analysis of all cases observed in 1928 in Massachusetts, with known contact, in which an interval of separation had occurred prior to onset. In none of the observations reported was the incubation period necessarily shorter than six days. The conclusion reached is that the apparent incubation falls within a period of from 6 to 20 days. The period of infectivity of poliomyelitis could not be fixed, but at least the evidence is conclusive that the infectious period of the disease may extend from the fourteenth day preceding the onset of symptoms to at least the fifth day of the disease. In experimental monkeys the incubation period following inoculation of fully active virus, was most often 6 or 7 days, but varied from 4 to 15 days. Longer incubation periods were observed following inoculations of modified virus.

### **Acute Rheumatism in Childhood and Its Sequelae—Sterling, U.S. P.H. Service, P.H. Reports—Vol. 44, No. 25, June 1929.**

It is pointed out that of approxi-

mately one million deaths from all causes, from birth to 14 years from 1922 to 1926, heart disease caused almost twice as many deaths as scarlet fever, four-fifths as many as measles, five-sevenths as many as whooping cough and half as many as diphtheria. While acute rheumatic fever does not take the toll of child life that can be ascribed to any one of the common infectious diseases, it is conceded that acute rheumatism is the most important single cause of heart disease in early life. It has been estimated that 75 per cent or more of children under 10 years of age are likely to have an involvement of the heart in the course of an attack of acute rheumatism. Generally speaking, in the United States there is an incidence of from 0.7 to 2 per cent of heart defects among children to 14 years of age. The author points out that a more or less grudging belief in the rôle of contact infection in febrile attacks seems to be gaining ground. Apparently removal of the tonsils lessens the chance of contracting acute rheumatic fever. Thus Kaiser, *J.A.M.A., Dec. 31, 1927*, shows that in an analysis of 478 cases of carditis, in 83 per cent the condition developed before tonsils removal and in 17 per cent following tonsillectomy. Extraordinary care may avert cardiac complications once the disease is established. To that end prolonged rest in bed is advocated. The prevention of acute rheumatic fever is distinctly a public health problem. The establishment of cardiac classes in schools is a responsibility of the community towards a very partial solution.

